

long, similar in colour, clothing, and armature to legs. *Falces* dark brown, well arched, densely clothed with long coarse dark grey hairs or bristles. *Maxillae* and *labium* normal, hairy; reddish, apices yellow. *Sternum* broadly shield-shaped, dark brown, nearly black, well arched, densely hairy. *Abdomen* ovate, slightly overhanging base of cephalothorax, arched, hairy; superior surface dark brown spotted with yellow, and ornamented in front with distinct yellow, somewhat crescent-like design; sides dark brown; inferior surface yellow, with smoky-brown longitudinal and transverse markings. *Epigynum* large, hairy, well developed, raised, shining, yellow; there is a double ridge running down the middle, and these are bridged in front and curved laterally and outwards posteriorly (fig. 11).

Hab.—Farina.

NOTE.—The example herein described is a fully matured but apparently rather small example. Doubtless when a series of this species shall have been collected and brought together, considerable variation in point of size will be noticeable.

Family OXYOPIDAE.

Only two species of this family were collected, and these call for no comment. They are as hereunder:—

PEUCETIA ALBESCENS, L. Koch.

L. Koch: *Die Arach. des Austr.*, ii., 1878, p. 998, pl. lxxxvii., figs. 3, 3a.

Hab.—Strzelecki Creek.

OXYOPES DINGO, Str.

Strand: *Zool. Jahrb.*, 1913, p. 623.

Hab.—Kanowana, Cooper Creek, and Farina.

(n) INSECTA,

By ARTHUR M. LEA, F.E.S., Museum Entomologist.

[*Contribution from the South Australian Museum.*]

PLATES XXXIII. TO XXXVII.

The collection of insects obtained by the expedition is not a large one (which could hardly be expected considering the time of the year it was made), but nevertheless contains some remarkable species; perhaps the most interesting of which is a large subapterous grasshopper (pl. xxxiii., figs. 1-3), of the

genus *Brachytettix* ⁽¹⁾ closely resembling the "gibbers" amongst which it occurs. A single specimen of the widely distributed but rare and curious cricket, *Cylindrodes campbelli*, Burm. ⁽²⁾ (pl. xxxiii., fig. 4), was taken. Several larval ant-lions (*Myrmeleonidae*) were taken, but unfortunately the life-histories of so few of these species are known that practically nothing can be done with preserved larvae; the species commented upon by Mr. Waite ⁽³⁾ appears to have similar habits to some of our species frequenting beach-dunes. Two specimens of a minute weevil (*Niphobolus deceptor*) having very unusual claws were obtained.

Most of the beetles collected are here identified or named, but in addition other insects were obtained as follows:—*Hemiptera*, 27 species; *Hymenoptera* ⁽⁴⁾, 20 species; *Orthoptera*, 17 species; *Lepidoptera*, 11 species; *Diptera*, 6 species; and *Neuroptera*, 4 species.

Mr. Waite has also supplied an interesting note on some scorpions obtained during the expedition ⁽⁵⁾.

(1) A specimen of the species is standing under that name in the Museum, but as yet I have been unable to verify it.

(2) On September 25, when traversing the sandhills in the neighbourhood of Strzelecki Creek, I noticed long tracks in the sand, each terminating in a round hole: these tracks were often punctured, evidently by birds searching for the contained insect. I made many attempts to secure what I thought might be a mole cricket, and finally succeeded in obtaining a single specimen, which Mr. Lea has since identified as that curious cricket, *Cylindrodes*.—E. R. W.

(3) Previously I had caught the larvae of ant-lions only at the bottom of their pits, but when among the sandhills in the vicinity of Kanowana on October 11, I noticed some variation in construction. A sub-surface tunnel was found to run from many of the pits to a distance of 12 inches or so, and after many attempts, made in various positions of the tunnel, it was found that a sudden grab at the further end of the bore often succeeded in disclosing the larva in the handful of sand secured.—E. R. W.

(4) Thousands of wasps of two species were seen drinking at water-troughs.

(5) On September 3, when collecting on the sandhills bordering Strzelecki Creek, I noticed a number of peculiar slit-like holes about 2 inches wide, but only $\frac{1}{4}$ inch in depth. Discovering that the holes were drilled to a considerable distance, I returned to camp and obtained a shovel; then, guided by a probing stick, I dug slopingly downwards. When the excavation reached a vertical depth of $2\frac{1}{2}$ feet I came across a pair of formidable-looking nippers, and discovered them to be the claws of quite a large scorpion. Several other burrows were excavated with like result, and a number of scorpions thus obtained. The narrow slit-like opening, which exactly accommodates the body of the scorpion, is continued of the same character through the sand to the terminal chamber, which was found to be enlarged ($2\frac{1}{2} \times 1$ inches), certainly enabling the creature to turn round.—E. R. W.

COLEOPTERA.

In dealing with the Coleoptera of the Elder Expedition, the late Rev. T. Blackburn added some species from interior localities that were not actually obtained during that expedition, and as there are many beetles in the Museum from Farina, Hergott, and other localities adjacent to those traversed by the Museum Expedition, it seems desirable to include these. The specimens are mostly from the Blackburn collection; but others taken by members of a field naturalists' excursion to Parachilna, in the Flinders Range, in October, 1915, are included. Mr. J. W. Hosking (one of the party) stayed at Orroroo for a few days on the return journey, and the specimens he obtained there are likewise included; Mr. E. L. Savage in particular obtained some interesting additions; and in April, 1917, his brother (Mr. C. G. Savage) also visited Parachilna, and obtained many specimens. Beetles were also received from Mount Painter (in the Flinders Range) taken by Mr. H. G. Stokes, from Leigh Creek taken by Mr. W. B. Greenwood, and from Roxley Downs (near Port Augusta) taken by Mr. Henry Greenfield.

In January, 1917, Capt. S. A. White and I spent a few days collecting at Ooldea (then the head of the construction of the East-West railway), but the weather was extremely hot and dry, and but few beetles were obtained (nearly all the more interesting ones were taken at lights); a little collecting was done at the waiting places to and from Port Augusta, and also at the latter place. Subsequently Capt. White again visited Ooldea, and obtained additional species. From Ooldea also numerous specimens were received from Messrs. T. C. Ash and A. O. Jones; Mr. F. N. Mack sent two lots of specimens from Ooldea and Winbring. Mr. Blackburn recorded some insects taken by the late Mr. R. T. Maurice at Ooldea. These are not included here, but some taken by Mr. Maurice and not dealt with by Mr. Blackburn are included.

It also appeared desirable to include in the paper a few species from other States, belonging to genera species of which were taken at the localities mentioned; but, unless stated to the contrary, all the localities given are South Australian.

CICINDELIDAE.

CICINDELA MASTERSI, MacI. Innamincka.

C. SEMICINCTA, Chaud. Mount Painter.

MEGACEPHALA AUSTRALIS, Chaud. Carraweena, Farina, Orralina, and Petermorra Springs.

CARABIDAE.

CALOSOMA SCHAYERI, Er.

This species frequently came to the lights at night, and its vile smell rendered it a nuisance. Carraweena, Frome Well, Knob, Parachilna, Strzelecki Creek.

GIGADEMA BOSTOCKI, Cast. Ooldea.

PHEROPSOPHUS VERTICALIS, Dej. Orroroo.

AGONOCHILA FENESTRATA, Blackb. Ooldea.

DROMIUS HUMERALIS, Macl. Lakes Crossing.

ECTROMA BENEFICA, Newm. Carraweena, Ooldea, Parachilna.

PHLAEOCARABUS CRUELIS, Newm. Farina, Parachilna, Petermorra Spring, Port Augusta, Strzelecki Creek.

TRIGONOTHOPS LONGIPLAGA, Chaud. Ooldea.

ADELOTOPUS APHODIOIDES, Westw. Ooldea.

A. HAEMORRHODIALIS, Fab. Orroroo, Parachilna.

CARENUM BREVICOLLE, Sl. Museum Expedition.

C. SUBCYANEUM, Macl.⁽⁶⁾ Ooldea, Parachilna.

NEOCARENUM ELONGATUM, Macl. Ooldea.

PHILOSCAPHUS COSTALIS, Macl. Ooldea (pl. xxxiii., fig. 5).

EURYSCAPHUS OBESUS, Macl. Clayton Creek (pl. xxxiii., figs. 6, 7).

GEOSCAPTUS LAEVISSIMUS, Chaud. Clayton Creek.

CLIVINA CORONATA, Putz. Lakes Crossing.

C. FRENCHI, Sl. Birkett's Woolshed, Carraweena, Strzelecki Creek.

C. QUADRATIFRONS, Chaud. Carraweena.

C. TUMIDIPES, Sl. Strzelecki Creek.

OODES WATERHOUSEI, Cast. Farina, Oodnadatta, Tarcoola.

CHLAENIUS AUSTRALIS, Dej. Clayton and Cooper Creeks, Farina, Ooldea, Parachilna, Strzelecki Creek.

C. DARLINGENSIS, Cast. Orroroo.

PROMECODERUS GRACILIS, Germ. Gawler Ranges.

PARROA APICALIS, Sl.

Pl. xxxiii., fig. 8.

An unusually large female (30 mm.) was obtained at Ooldea; but in its basal angles of prothorax suddenly turned downwards, and in its rugose apex of elytra, it agrees with smaller specimens.

CEROTALIS AMABILIS, Sl. Ooldea.

CENOGMUS ROTUNDICOLLIS, Cast. Parachilna, Wookalla.

GNATHAPHANUS PULCHER, W. S. Macl. Ooldea.

(6) Name received from Mr. Sloane.

- G. ADELAIDAE, Cast. Ooldea.
 HYPHARPAX DEYROLLEI, Cast. Parachilna.
 H. INORNATUS, Germ. Ooldea, Winbring.
 H. INTERIORIS, Sl. Birkett's Woolshed, Carraweena
 Higgins Dam, Lakes Crossing, Orroroo, Parachilna
 Strzelecki Creek.
 H. RANULA, Cast. Orroroo.
 MECYCLOTHORAX AMBIGUUS, Er. Parachilna.
 PHORTICOSOMUS GRANDIS, Cast. Cooper Creek, Hergott,
 P. HORNII, Sl. Lakes Crossing.
 P. SIMILIS, Blackb. Hergott, Parachilna, Petermorra
 Spring.
 THENAROTES TASMANICUS Bates. Lakes Crossing.
 CHLAENIOIDIUS HERBACEUS, Chaud. Carraweena, Strze-
 lecki Creek.
 LOXANDRUS AUSTRALIENSIS, Sl. Birkett Woolshed, Cara-
 weena, Cooper Creek, Higgins Dam, Strzelecki
 Creek.
 RHYTISTERNUS CYATHODERUS, Chaud. Carraweena,
 Cooper Creek, Farina, Kopperamanna, Higgins
 Dam, Parachilna, Strzelecki Creek, Trinity.
 R. MISER, Chaud. Parachilna.
 SIMODONTUS HOLOMELAENUS, Germ. Parachilna.
 PLATYNUS MARGINICOLLIS, Macl. Birkett's Woolshed,
 Orroroo, Parachilna.
 POGONUS ZIETZI, Sl. Lakes Crossing.
 TACHYS SIMILIS, Blackb. Ooldea.
 BEMBIDIUM JACKSONIENSE, Guer. Birkett's Woolshed,
 Hergott, Oodnadatta, Parachilna.
 B. SUBVIRIDE, Macl. Ooldea.

DYTISCIDAE.

ERETES AUSTRALIS, Er.

This species occurs in amazing numbers in many of the interior waterholes, and is apparently one of the most important food-insects of aquatic birds. Carraweena, Ooldea, Parachilna, Strzelecki Creek.

- ANTIPORUS GILBERTI, Clark. Birkett's Woolshed, Kopperamanna, Strzelecki Creek.
 BIDESSUS BISTRIGATUS, Clark. Kopperamanna, Parachilna.
 COPELATUS RETICULATUS, Clark. Orroroo, Parachilna.
 MACROPORUS HOWITTI, Clark. Birkett's Woolshed.
 NECTEROSOMA PENICILLATUM, Clark. Orroroo, Parachilna.
 N. VITTIPENNE, Macl. Parachilna.
 RHANTUS PULVEROSUS, Steph. Parachilna.

HYDROPHILIDAE.

- BEROSUS MACUMBENSIS, Blackb. Carraweena, Strzelecki Creek.
 HYDROBIUS ASSIMILIS, Hope. Orroroo, Parachilna, Strzelecki Creek.
 HYGROTROPHUS NUTANS, Macl. Strzelecki Creek.
 PARACYMUS SPENCERI, Blackb. Parachilna.
 PHILHYDRUS ANDERSONI, Blackb. Carraweena.
 P. MARMORATUS, Macl. Parachilna.

STAPHYLINIDAE.

- CONOSOMA MYRMECOPHILUM, Lea. Ooldea.
 CREOPHILUS ERYTHROCEPHALUS, Fab. Cooper Creek, Ooldea.
 SCYMBALIUM ARCUATUM, Fvl. Birkett's Woolshed, Carraweena, Hergott, Higgins Dam.
 TROGOPHILAEUS ADELAIDAE, Blackb. Birkett's Woolshed, Farina, Hergott, Leigh Creek, Oodnadatta, Quorn, Strzelecki Creek.

LATHROBIUM SEMIFUMATUM, n. sp.

Flavous or reddish-flavous; head moderately, the abdomen more deeply infuscated. Clothed with short and sparse, suberect pubescence, denser and more depressed on abdomen than elsewhere, with a few long hairs scattered about.

Head (excluding muzzle) subquadrate, parallel-sided behind eyes, with scattered and not very large but sharply-defined punctures. Antennae rather long and thin, third joint distinctly longer than second or fourth. *Prothorax* slightly longer than wide, widest near apex, where the width is almost even with head, sides lightly but distinctly incurved near apex, basal angles widely rounded, with somewhat denser and smaller punctures than on head but absent along middle. *Elytra* distinctly wider than long, slightly wider than head; with small and shallow punctures, seriatly arranged, but almost disappearing posteriorly. *Legs* short; front femora stout and subdentate. Length, 6; to apex of elytra, 4 mm.

Hab.—South Australia: Farina (Blackburn's collection), Wookalla (A. M. Lea). Type, I. 8204.

In many respects agrees with the description of *victoriense*, but differs in having the prothorax distinctly narrowed before the middle and the head not subtriangular; in an unpublished table by the late Rev. T. Blackburn it was distinguished from that species by the "eyes exceptionally large" as against "eyes small" (but the eyes were not even mentioned in the description

of *victoriense*). The elytra and legs are slightly paler than the prothorax, the tip is obscurely paler than the rest of the abdomen, but on some specimens the tip of each segment is obscurely diluted with red. The pubescence of the upper-surface, although short, is very conspicuous from the sides. The prothoracic punctures are not at all seriate in arrangement. The front femora are ridged along the middle of the basal half, and the sudden termination of the ridge causes a dentiform appearance (very conspicuous from some directions).

Variety (?). Eight specimens from North-western Australia (Derby and Fortescue River—W. D. Dodd) may represent a variety but probably a distinct species—they differ from the typical form in being slightly narrower, the prothorax and elytra almost uniformly reddish-castaneous, and the antennae shorter; on the typical form all the joints of the antennae are longer than wide, but on these the ninth and tenth are slightly wider than long; one of the Derby specimens has the prothorax, elytra, and abdomen of an almost uniform shade of castaneous, the legs are not much paler, and the head is but lightly infuscated.

LATHROBIUM BASIPENNE, n. sp.

Black; elytra bright reddish-castaneous, the base black or deeply infuscated, tip of abdomen obscurely diluted with red, appendages flavous. Upper-surface, except of abdomen, almost glabrous. Length, $6\frac{3}{4}$; to apex of elytra, $4\frac{1}{4}$ mm.

Hab.—South Australia: Oodnadatta (Blackburn's collection). Type, I. 8205.

Structurally close to the preceding species, but larger, prothorax black, elytra differently coloured, and punctures rather more distinct. In general appearance it is close to *notaticolle*, but is readily distinguished therefrom by the prothoracic punctures being not at all seriate in arrangement. On a specimen from Solarno ⁽⁷⁾ the basal fourth of the elytra (rather more about the suture) is of a shining black, and the antennae are somewhat darker than the legs, on the type the basal portion of the elytra is rather deeply infuscated, and the antennae are no darker than the legs. As viewed from the side the upper part of the head (except in front of the eyes) is entirely glabrous, and on the elytra the pubescence is sparse and lateral.

SILPHIDAE.

DIETTA SPERATA, Sharp. Ooldea.

(7) I cannot find Solarno in any list of Australian towns or localities.

HISTERIDAE.

SAPRINUS CYANEUS, Fab. Parachilna.

S. SPECIOSUS, Er. Cooper Creek, Lakes Crossing,
Ooldea.

STICTOSTIX LEAI, Lewis. Oodnadatta.

PHALACRIDAE.

LITOCRUS CONSORS, Blackb. Ooldea.

L. LAETICULUS, Blackb. Ooldea.

PHALACRUS CORRUSCUS, Panz. Oodnadatta.

NITIDULIDAE.

CARPOPHILUS ATERRIMUS, Macl. Ooldea.

C. HEMIPTERUS, Steph. Ooldea.

CRYPTARCHA AUSTRALIS, Reitt. Ooldea.

CYCHRAMPTODES MURRAYI, Reitt. Parachilna.

MACROURA BRUNNESCENS, Reitt. Ooldea.

NOTOBRACHYPTERUS TESTACEUS, Boh. Ooldea.

THALYCRODES AUSTRALIS, Germ. Carraweena.

LATHRIDIIDAE.

CORTICARIA ADELAIDAE, Blackb. Port Augusta.

COLYDIIDAE.

DITOMA HILARIS, Blackb. Ooldea.

DERMESTIDAE.

DERMESTES CADAVERINUS, Fab. Farina, Ooldea, Parachilna.

HETEROCERIDAE.

HETEROCERUS DEBILIPES, Blackb. Birkett's Woolshed,
Farina, Strzelecki Creek.

SCARABAEIDAE.

ATAENIUS SEMICORNUTUS, Macl. Carraweena, Kopperamanna.

BOLBOCERUS CORNIGERUM, Macl. Ooldea (pl. xxxiii., figs. 13-17).

B. RECTICORNE, Guer. Ooldea.

B. SIMPLICICEPS, Blackb. Ooldea.

B. SLOANEI, Blackb. Ooldea (pl. xxxiii., figs. 10-12).

MEGALOTROX ELDERI, Blackb. Ooldea (pl. xxxiii., fig. 9).

TROX AUGUSTAE, Blackb. Cooper Creek, Kopperamanna.

T. CROTCHI, Har.⁽⁸⁾ Ooldea, Strzelecki Creek, Winbring.

(8) This is the species appearing on pl. xxxiii., fig. 2.

- T. EYRENSIS, Blackb. Ooldea.
 T. LITIGIOSUS, Har. Farina, Lakes Crossing, Ooldea,
 Strzelecki Creek.
 T. PERHISPIDUS, Blackb. Leigh Creek.
 T. STRZELECKENSIS, Blackb. Leigh Creek.
 T. VELUTINUS, Blackb. Trinity.
 LIPAROCRURUS GEMINATUS, Westw. Leigh Creek.

PARARHOPAEA GIGAS, Lea.

Pl. xxxiii., figs. 18, 19.

We obtained twenty specimens of this fine species at Ooldea; they flew to the vicinity of lights with a loud booming noise. Subsequently others were received from Messrs. Ash and Jones, all males.

ZIETZIA GEOLOGA, Blackb. Roxley Downs (pl. xxxiii., figs. 20, 21).

HETERONYX BELTANAE, Blackb. Ooldea.

H. CASTANEUS, MacI. Carraweena, Farina, Higgins Dam, Lakes Crossing, Petermorra Spring. Strzelecki Creek.

H. LUBRICUS, Blackb. Ooldea.

H. PICEUS, Blanch. Parachilna.

H. SQUALIDUS, Blackb. Farina.

H. UNICUS, Blackb. Hergott.

H. WATERHOUSEI, Blackb. Ooldea.

ENAMILLUS MAURICEI, Blackb.

Pl. xxxiv., fig. 26.

On the figure the wide black apical fascia is scarcely evident, but it is very conspicuous on the specimen itself. Ooldea.

HAPLONYCHA.

The species of this genus are numerous in South and Western Australia, and at first glance many so strongly resemble each other that it appears to be an almost hopeless task to attempt to separate them; but the tables given by the late Rev. T. Blackburn⁽⁹⁾ enable most of the known species to be readily distinguished, or at least to be sorted into groups, although manipulation of the brittle cephalic appendages has often to be resorted to.

Group 1.—It is not always easy to count the joints of the antennae without snapping them off, but as the distinctive feature of this group (an eight-jointed antenna, against a nine-jointed one of all others) is an arithmetical one, the few species may be referred to it with certainty.

(9) *Ante*, 1906, pp. 292-304.

Group 2.—Very distinct with a little experience; all the known members of it are large.

Group 3.—Also a very distinct group, but some members of the preceding group have similar palpi.

Group 4.—The species of this group are the most troublesome to determine, as it is often difficult to decide as to the length of the antepenultimate joint of the maxillary palpus, its base usually being obscured, so that its real length is often a matter of conjecture until dissection, and even after that not always certain; but the character is supplemented by "the dorsal surface of the body is pruinose and iridescent"; not always, however, very satisfactory.

Group 5.—After passing the preceding group the present is a very distinct one.

Groups 6 and 7.—These are only distinguished, *inter se*, by a character of doubtful value.

Group 8.—Distinguished solely by colour.

HAPLONYCHA MARGINATA, Blackb.

Two specimens, marked as cotypes of this species and agreeing with the description, and another from Stradbroke Island (Queensland), have the front tarsi with remarkable claws; they are dilated and distorted at the base, with the apical hook not regularly curved, but strongly incurved (or sinuous) so as almost to touch the basal portion, and one claw is more deformed than the other.

HAPLONYCHA PILOSA, Blackb.

Pl. xxxiv., fig. 22.

Five specimens from Minnipa Hill probably belong to this species, and I should have had no hesitation in referring them to it, but for the comments: "The sparse, erect, very fine, and inconspicuous hairs on its head, disc of prothorax, and base of elytra are a valuable specific character." On these specimens the middle of the disc of the pronotum is glabrous, but there are many hairs before the basal gutter, and about the middle of the apex (and extending some distance from the apex), but these hairs are quite as long and conspicuous as the fringing ones. The third joint of the antennae was not mentioned in the description, but on the Minnipa Hill specimens is very strongly triangularly dilated on one side. The six-jointed club and triangularly notched apex of pygidium should, however, be conclusive.

HAPLONYCHA PULCHELLA, Blackb.

A specimen from Mindarie appears to belong to this species, but has the elytra of a deep castaneous-red, and

brightly iridescent; the elytra are also slightly more dilated posteriorly than on the typical form, but the antennae and palpi are in agreement. Its pygidium is clothed with very dense and short setae, as on all other specimens that I have examined of the species. Its general appearance is much like *gagatina*, but that species has non-iridescent elytra, and the prothorax (for the genus) coarsely sculptured. Its iridescence was probably the determining factor with Blackburn in referring the species to Group 4, as by its palpi it should not have been referred to that group.

HAPLONYCHA NOBILIS, Blackb.

The type of this species is a female. Two males from the Warren River (near the original locality in Western Australia) differ in being somewhat larger, and with the ramus of the basal joint of the club considerably longer (although smaller than that of the following joint), the fifth joint of the antennae has also a more conspicuous spur than on the female.

H. DECEPTOR, Blackb. Birkett's Woolshed, Cooper Creek, Trinity.

H. FRATERNA, Blackb. Orroroo.

H. PALPALIS, Blackb. Museum Expedition.

H. SETOSA, Blackb. Oodnadatta.

H. SOLIDA, Blackb. Ooldea (pl. xxxiv., fig. 23).

Group 1.

HAPLONYCHA OCTOARTICULATA, n. sp.

Reddish-castaneous and moderately iridescent; head, tibiae, and tarsi somewhat darker, antennae paler. Under-surface and legs with dense golden hairs, pygidium with short, dense, erect setae, lateral gutters of pronotum with a few long hairs, rest of upper-surface glabrous; membranous fringe⁽¹⁰⁾ of elytra rather long, its greatest length almost equal to that of the fourth tarsal joint.

(10) On this, as on all other species of the genus, each elytron has two marginal fringes—the first a row of rather long stiff setae projecting outwards, often at right angles to the derm; the second a much more closely packed row, apparently in most species connected by a fine membrane, so as to appear semisolid, and projecting downwards. Its length varies considerably in the different species, and it appears to be easily abraded. When first dealing with the genus (under the name of *Colpochila*) Mr. Blackburn appeared to consider the membranous fringes as of use in descriptions. The tips of the tibiae and of some of the tarsal joints, the outer edge of the clypeus, and the front tibial spurs are usually black, but I have not considered it necessary to mention these under each species.

Head with moderately large crowded punctures; front face of clypeus with numerous setiferous punctures on sides, but the setae almost confined to a single row across middle. Fourth joint of antennae much longer than third, and more than twice the length of fifth, sixth-eighth forming a club. *Prothorax* fully thrice as wide as the median length, marginal gutters dilated to apex, with the front angles produced and acute, sides oblique from apex to beyond the middle, and then arcuate to base, where each angle is almost rectangular: with rather small scattered punctures. *Elytra* feebly dilated posteriorly; with fairly numerous and almost evenly distributed punctures of moderate size, striation lightly defined; apical mucros sharp, and slightly longer than membranous fringe. *Pygidium* asperate but becoming polished at tip. Basal joint of hind *tarsi* just perceptibly longer than second. Length, 15 mm.

Hab.—South Australia: Crecy. Type (unique), I. 4603.

I have closely examined the fourth joint of the antennae: from some directions a notch on one side of it causes the antennae to appear to be nine-jointed, but from other directions the continuity of the fourth is quite distinct: both antennae are alike, although I broke off one to examine it more closely. Its antennae being eight-jointed, this species could only be referred to Blackburn's Group 1, but it certainly looks out of place there, and more like some members of Group 4. In the table of the group, whilst belonging to A, it could hardly be referred to B, as the sides of the prothorax are sinuate near the base, and it could not be referred to BB,⁽¹¹⁾ as the head is densely and in places confluent punctured. I have not dissected out the maxillary palpi, but the penultimate joint appears to be subequal to the antepenultimate, and is distinctly shorter than the apical. The geminate striae of the elytra are less close together than usual, and the punctures between them are quite as close together as those between the other striae.

HAPLONYCHA ERYTHROCEPHALA, n. sp.

Blackish, and somewhat iridescent; head, sterna, and legs reddish. Under-surface with dense, long, almost white hairs, becoming darker on legs, all gutters of pronotum with long erect hairs, more numerous in middle of apex than elsewhere, disc with a few scattered ones, elytra with a few long hairs on suture and on apical slope, and with numerous minute depressed setae; membranous fringe very short; pygidium with numerous long hairs, and a few short setae.

(11) By an oversight printed B on the top line of page 298.

Head with round and sharply defined but not very large punctures, nowhere confluent, but larger in middle of base of clypeus than elsewhere: vertical front face of clypeus with numerous setiferous punctures on sides, but confined to a single row across middle. Antennae with fourth joint twice the length of third, and more than thrice the length of fifth, sixth-eighth forming a club. Maxillary palpi with penultimate joint much shorter than antepenultimate, and scarcely more than half the length of apical, the latter rather long and thin. *Prothorax* about thrice as wide as the median length, front angles produced and acute, hind ones rounded off; with rather small and not very dense punctures. *Elytra* slightly dilated to about the middle; geminate-striae light but distinct, punctures much as on prothorax; suture unarmed. *Pygidium* strongly convex, and rather strongly asperate about base, becoming smoother about tip. Basal joint of hind *tarsi* distinctly longer than second. Length, 22 mm.

Hab.—Western Australia: Cottlesloe, October, 1913 (No. 8194 of Western Australian Museum). Type, I. 7810.

In Blackburn's table of Group 1, would be associated with *crinita*, from which it differs in being larger and very differently coloured, clothing in basal gutter of pronotum much less dense. The dark prothorax and elytra (on close examination these are seen in places to be obscurely diluted with red) in striking contrast to the red head, is most unusual in the subfamily. The rami of the club are quite as long as the basal joint of antennae. The type appears to be a male.

Group 2.

HAPLONYCHA MIXTA, n. sp.

Reddish-castaneous and slightly iridescent, elytra (except narrowly along suture and margins) paler. Under-surface and legs with dense golden pubescence; head with a few long hairs near eyes, and on base of clypeus, lateral and basal gutters and front margin of pronotum with long hairs, dense at positions of hind angles; membranous fringe of elytra very short; pygidium with numerous rather short, stiff setae.

Head with large crowded punctures about clypeal suture, becoming smaller and sparser elsewhere; vertical front face of clypeus unusually high, with rather dense setiferous punctures on sides, but setae confined to a single row across middle. Fourth joint of antennae very little longer than third, sixth acute on one side, seventh-ninth forming a club. Maxillary palpi with penultimate joint much shorter than the antepenultimate or apical ones, the apical densely punctured, and with a conspicuous elongate depression or upper-surface.

Prothorax about four times as wide as the median length, sides strongly rounded, front angles acute, hind angles widely rounded off, lateral gutters wide in front and at position of hind angles; punctures (except in gutters) very small and sparse. *Elytra* with geminate-striae and punctures very feeble, sides and apex lightly rugulose; suture unarmed. *Pygidium* opaque and subasperate about base, smooth and shining about apex. Basal joint of hind *tarsi* distinctly longer than second. Length, 21-23 mm.

Hab.—South Australia: Murray River (H. S. Cope), Crecy, Grunthal. Type, I. 7812.

The maxillary palpi are as in Group 3, but as Blackburn treated the gutters of the pronotum as of more importance than the palpi, this species must be referred to Group 2; in that group it could only be associated with *latebricola*, from which it differs in its consistently much smaller size, and by its palpi and pygidium; in general appearance it is much like *punctulata*, *gouldi*, and *trichopyga*. The five specimens before me are all of one sex, probably female.

HAPLONYCHA INTEROCULARIS, n. sp.

Pl. xxxiv., fig. 24.

Reddish-castaneous, elytra paler. Under-surface and legs densely clothed with long golden hairs, numerous similar hairs between and at sides of eyes, lateral gutters of pronotum with similar hairs, becoming denser at positions of hind angles, and then suddenly terminating; membranous fringe of elytra very short; pygidium glabrous.

Head with irregular punctures; clypeus with numerous setiferous punctures on front face, but setae confined to a single row across middle. Antennae with third and fourth joints subequal, fifth with an acute ramus about one-third the length of that of following joint, sixth-ninth forming a club. Maxillary palpi with penultimate joint slightly shorter than the adjacent ones. *Prothorax* about thrice as wide as the median length, sides strongly rounded, front angles produced and acute, hind ones strongly rounded off; lateral gutters rather wide and densely granulate-punctate, elsewhere with small punctures, becoming very sparse in middle. *Elytra* somewhat dilated to about the middle; with fairly numerous sharply defined but not very large punctures; apex rugulose, geminate-striae distinct; suture unarmed. *Pygidium* moderately convex and opaque. Basal joint of hind *tarsi* distinctly longer than second. Length, 28 mm.

Hab.—South Australia: Denial Bay (Dr. C. T. Abbott). Type (unique), I. 4608.

In Blackburn's table of Group 2 could only be associated with *campestris*, from a co-type of which it differs in having very much smaller punctures on head, with a conspicuous row of long hairs between the eyes; the prothorax also is more transverse. In general appearance it is like *antennalis*, *laminata*, *dubia*, and *nobilis*. The punctures on the head behind the clypeal suture are nearly all small and free, but close to the suture there are many large irregularly scattered ones; the clypeus itself has sharp punctures throughout, becoming more crowded (but not confluent) about the suture. The type appears to be a female.

Group 4.

HAPLONYCHA GYMNOPIGA, n. sp.

Dark reddish-castaneous and iridescent, under-surface somewhat darker than upper. Sterna and legs with dense golden hairs, lateral gutters of pronotum each with a row of similar hairs; membranous fringes of clytra very short; pygidium glabrous.

Head with not very large, and numerous but not confluent punctures, more crowded and larger on middle of basal portion of clypeus (which is also somewhat elevated) than elsewhere; front face of clypeus with a conspicuous row of setiferous punctures across middle, but more numerous and irregular on sides. Antennae with fourth joint slightly longer than third, sixth-ninth forming a rather small club. Maxillary palpi with penultimate joint slightly longer than antepenultimate, but conspicuously shorter than apical. *Prothorax* almost four times as wide as long, sides strongly rounded, front angles produced and acute, hind ones completely rounded off, lateral gutters rather wide in front, punctures numerous and small. *Elytra* feebly dilated to beyond the middle; punctures (for the genus) moderately large and dense, geminate-striae distinct, the punctures between each pair much sparser than between pair and pair; suture unarmed. *Pygidium* glabrous, gibbous in middle, upper portion opaque and with numerous rather small punctures, lower portion polished and almost impunctate. Basal joint of hind *tarsi* slightly longer than second. Length, 21-22 mm.

Hab.—South Australia: Murat Bay (Dr. C. T. Abbott). Type, I. 4620.

The front face of the clypeus in its middle has very sparse and small punctures, leaving the setiferous now distinct, but at the sides they are obscured; *paradoxa* (the only species in Group 4 referred to FF) has the club four-jointed, so the present species seems better referred to F.

Regarding it as such it would be associated with *sloanei*, to which it certainly looks very close, but it differs in being larger, punctures on head much smaller and less rugose, and by its pygidium; on the present species that portion is entirely glabrous, and its upper surface has rather small but sharply defined transverse punctures, becoming much smaller and very sparse towards the tip, where also the derm is shining; on a co-type of *sloanei* the surface is slightly shining throughout, somewhat shagreened, and with numerous short stiff setae on the basal half. In general appearance it is rather close to *firma*, but that species has the upper-surface of the head and the pygidium clothed. The two specimens in the Museum are probably females, their elytra are slightly paler than the other parts of the upper-surface, but not conspicuously so.

HAPLONYCHA BIMUCRONATA, n. sp.

Dark piceous-brown and iridescent: some parts almost or quite black, antennae reddish, club paler. Sterna and legs with dense golden-brown hairs, a few similar hairs forming a fringe in each lateral gutter of pronotum; membranous fringe of elytra long, not much shorter than fourth joint of hind tarsi; pygidium glabrous.

Head with crowded and moderately large punctures, more crowded about clypeal suture than elsewhere; clypeus, in addition, with numerous small punctures amongst the larger ones; front face of clypeus with numerous punctures, but in middle the setiferous ones confined to a single row. Antennae with fourth joint slightly longer than third, the two combined scarcely longer than second, seventh-ninth forming a rather small club. Maxillary palpi with penultimate joint slightly longer than antepenultimate, and slightly shorter than apical. *Prothorax* about thrice as wide as long, sides strongly and evenly rounded, front angles acute and produced, hind ones obtuse but not completely rounded off; punctures rather denser and larger than usual. *Elytra* slightly dilated posteriorly; geminate-striae moderately distinct, punctures fairly numerous but (except in the striae) usually smaller than on prothorax; suture strongly bimucronate. *Pygidium* with numerous small punctures and a conspicuous median carina, the propygidium close to its suture with a conspicuous, bisinuate, briefly setose ridge. Basal joint of hind *tarsi* distinctly longer than second. Length, 14 mm.

Hab.—South Australia: Ooldea. Type (unique), I. 7813.

In general appearance somewhat like *firma* or a small *solida*, but palpi, suture, and pygidium all very different. In

Blackburn's table of Group 4, the punctures of its elytra would associate it with *deceptor* and *sloanei*, both of which have the sutural mucros very short (practically absent) and the pygidium non-carinate. The prothorax is not so dark as the rest of the upper-surface, but it is much darker than the antennae. The type has a curious oily appearance.

HAPLONYCHA NOVEMARTICULATA, n. sp.

Rather dark reddish-castaneous and lightly iridescent, antennae much paler. Under-surface and legs rather densely clothed with golden hairs, each lateral gutter of pronotum with a feeble row of hairs; membranous fringe of elytra long, its greatest length about equal to that of fourth joint of hind tarsi; pygidium (except at its glabrous tip) with dense, very short and stiff setae.

Head with moderately dense and coarse punctures, rather denser in middle of base of clypeus than elsewhere; front face of clypeus with numerous punctures, but in middle the setiferous ones confined to a single row. Antennae with third and fourth joints subequal, seventh-ninth forming a comparatively small club. Maxillary palpi with penultimate joint slightly longer than antepenultimate, and distinctly shorter than apical. *Prothorax* about thrice as wide as long, sides strongly rounded in middle, thence oblique to apex and arcuate to base, front angles acute and produced, hind ones obtuse and not rounded off; punctures rather small and sparse. *Elytra* very feebly dilated to beyond the middle; punctures larger and more numerous than on prothorax, striation feeble; suture acutely bimucronate. *Pygidium* finely shagreened, except at tip; its suture with propygidium marked by a conspicuous, briefly setose, feebly bisinuate ridge. Basal joint of hind *tarsi* much longer than second. Length, $15\frac{1}{2}$ - $16\frac{1}{2}$ mm.

Hab.—South Australia: Ooldea (F. N. Mack), Murray River (H. S. Cope). Type, I. 7815.

In general appearance strikingly close to *octoarticulata*, but each antenna has nine distinct joints; it also looks like a very small *firma*, but the prothorax has much smaller punctures, and the apical joint of the palpi is considerably shorter and stouter. The hind angles of the prothorax somewhat resemble those of *badia*, but the two species are otherwise very different. On dissection the penultimate joint of the palpi is seen to be just a trifle longer than the antepenultimate, so the species should be referred to Group 4; it is certainly not "much" longer, however, so in the table it should be referred to CC, in which it looks as much out of place as does *nobilis*; but if referred to C its elytral punctures

would associate it with *deceptor* and *sloanei*, from both of which it is readily distinguished by its much smaller size, sharply defined basal angles of prothorax, and sutural mucros. On the male the rami of the club are about once and one-half the length of those of the female.

HAPLONYCHA VILLOSA, n. sp.

Dark reddish-castaneous and vaguely iridescent; elytra slightly paler than rest of upper-surface, antennae paler, club still paler. Under-surface and legs with dense, somewhat golden hairs, numerous somewhat similar but paler hairs on upper-surface, membranous fringe of elytra moderately long, but becoming shorter posteriorly; pygidium with dense and rather short stiff setae.

Head with coarse, crowded, confluent punctures; front face of clypeus with dense punctures, the setiferous ones forming a double row except in exact middle, but becoming dense at sides. Antennae with fourth joint distinctly longer than third, seventh-ninth forming a club. Maxillary palpi with penultimate joint distinctly longer than antepenultimate, and distinctly shorter than apical. *Prothorax* about thrice as wide as long, sides strongly rounded, front angles acute and produced, hind ones rounded off; punctures larger and denser than usual, but not very dense. *Elytra* lightly dilated from base; geminate-striae rather feeble, punctures numerous and of moderate size, larger in striae than elsewhere; suture acutely mucronate. *Pygidium* shagreened and punctate almost throughout. Length, 17-21 mm.

Hab.—Queensland: Cunnamulla (H. Hardcastle). Type, I. 801.

In Blackburn's tables would be referred to DD of Group 4, but it is very different in general appearance to *amabilis*, and it is the only species known, much of whose upper-surface is clothed with numerous long, straggling hairs; these are numerous on head (including clypeus), fill all the gutters of pronotum and are numerous in front, on the elytra they are geminate in arrangement (but owing to their length the geminate arrangement is scarcely evident, unless the elytra are viewed from behind), but become more numerous and irregular towards the sides. Abraded specimens look somewhat like *punctiventris*, *deceptor*, and *firma*. The sutural mucros are longer than the membranous fringe, and instead of continuing the general curve of the suture project somewhat outwards; the propygidium, slightly above its suture with the pygidium, has a conspicuous feebly bisinuate ridge, crowned with closely set, suberect, golden setae, but the ridge is often covered by the elytra; the basal joint of the

hind tarsi, when viewed from the outer side, appears to be shorter than the second joint, but when viewed from the inner side is seen to be slightly longer. On the male the rami of the club are slightly longer than on the female, but I can detect no other sexual differences. Numerous specimens were obtained at lights.

HAPLONYCHA CARA, n. sp.

Deep-red and brightly iridescent; elytra (suture and margins narrowly excepted) flavous. Sterna and legs with dense, pale, golden hairs, a few hairs in lateral gutters of pronotum; elytra with membranous fringe very short; pygidium with rather sparse, short, semi-decumbent setae.

Head with sharply defined punctures of moderate size, nowhere confluent but more crowded about base of clypeus than elsewhere; front face of clypeus in middle with a single row of setiferous punctures, but more numerous on sides. Antennae nine-jointed, the club three-jointed. Maxillary palpi with penultimate joint slightly longer than antepenultimate, and distinctly shorter than apical. *Prothorax* more than thrice as wide as long, sides strongly rounded, front angles produced and acute, hind ones obtuse but not rounded off; punctures rather small and sparse. *Elytra* almost parallel-sided; geminate-striae distinct and close together, but the pairs rather widely separated; punctures rather numerous and of moderate size, but absent or sparse within the pairs of striae; suture very feebly mucronate. *Pygidium* rather strongly convex, very finely wrinkled; base with small crowded punctures, becoming sparser towards the tip. Basal joint of hind *tarsi* distinctly longer than second. Length, 15-19 mm.

Hab.—South Australia: Karoonda to Peebinga (G. E. H. Wright), Murray River (H. S. Cope). Type, I. 4629.

On dissection the penultimate joint of the palpi is seen to be slightly longer than the antepenultimate, and, as the elytra are brightly iridescent, there need be no hesitation in referring the species to CC, of Group 4, where it would be associated with *bella*, from which it is at once distinguished by its three-jointed club; in general appearance it is strikingly close to some specimens of *gracilis*, but that species has a five-jointed club. The antennae differ considerably in the sexes, on the male the fifth joint is so closely and obliquely applied to the fourth that it appears to be a narrow apical portion of that joint; but on the female its distinction is at once evident, and it appears to be even stouter than the fourth; on the female the club is distinctly shorter than on the male, and conspicuously three-jointed, but on the male the last joint

is stouter and has a feebly defined median line, causing it to appear at first like two joints very closely applied together; the female is also slightly more dilated posteriorly, and the pygidium is more convex.

HAPLONYCHA IRIDIPENNIS, n. sp.

Black and brilliantly iridescent, the elytra especially so; parts of antennae, of tarsi, and tips of elytra diluted with red. Sterna and legs with rather dense and somewhat golden hair; lateral gutters of pronotum with sparse hairs; membranous fringe of elytra extremely short; pygidium with sparse and very short, indistinct setae.

Antennae with third and fourth joints equal and rather short, seventh-ninth forming a club. *Pygidium* moderately convex, with punctures of two kinds: very small ones almost evenly distributed, and larger (but not very large) ones, crowded at the base, and becoming sparse towards apex. Length, 15-16 mm.

Hab.—South Australia: Karoonda to Peebinga (G. E. H. Wright), Tintinara. Type, I. 4627.

On dissection the penultimate joint of the maxillary palpi is seen to be slightly longer than the antepenultimate, so as the derm is brilliantly iridescent I have no hesitation in referring it to Group 4; in general appearance it is very close to *pulchella* (with which it would be associated in that group), but it is even more brilliantly iridescent, and may be at once distinguished by the pygidium; on that species that part is densely clothed with short, stiff setae, placed at right angles to the derm; on the present species its clothing is sparse, not supported by granules, and more or less closely applied to the surface. Structurally it is exactly as described in the preceding species, except for its antennae and pygidium, and that the elytral punctures are somewhat larger and more rugose. The three specimens before me appear to be of one sex.

Group 5.

HAPLONYCHA SEMIOPACA, n. sp.

Dark reddish-brown; most of elytra of a shining castaneous-red, antennae paler. Sterna and legs with dense pale hairs, lateral gutters of pronotum with a few straggling hairs; fringes of elytra abnormal; pygidium with rather short, dense, stiff setae on small granules.

Head with dense punctures of moderate size, but larger on convex portion of clypeus than elsewhere; front face of clypeus with dense, setiferous punctures, but confined to a single row across middle. *Antennae* nine-jointed, the club

four-jointed. *Prothorax* less than thrice as wide as the median length, sides moderately rounded in middle, thence oblique to apex and subarcuate to base, front angles produced and very acute, the hind ones obtuse but not rounded off; punctures sparse and small. *Elytra* somewhat dilated posteriorly; geminate-striae moderately distinct, punctures fairly dense and of moderate size; sutural mucros acute and moderately long. *Pygidium* rough and granulate. Basal joint of hind *tarsi* longer than second. Length, 18-21 mm.

Hab.—South Australia: Murat and Denial Bays (Dr. C. T. Abbott). Type, I. 4635.

The polished portion of the elytra commences almost at the scutellum on the suture, but on the sides about the middle, so that the outer basal portion and the entire pronotum is opaque, but with a kind of bloom, this being exactly alike on the six specimens before me; but on twisting the specimens about the bloom, from certain directions, appears to be almost white. On some specimens the proportions of the maxillary joints of the palpi are not clearly visible, but on dissection the penultimate joint is seen to be distinctly shorter than the antepenultimate, so that the species should not be referred to Group 4; but if referred to that group it could only be placed in CC, from all the species of which it is strikingly different in general appearance, and even in a bright light it is but faintly iridescent. Referring it to Group 5, it should be placed with D, EE, and the base of its prothorax is as on *sinuaticollis* ⁽¹²⁾. In general appearance, except for the bloom, it seems close to *firma* and small specimens of *deceptor*. The prothorax is longer than usual in the genus. The elytral fringes are rather peculiar and unlike those of any other species I have examined; on each side at the base a row of stiff setae, directed at right angles to the derm, commences in the usual way, but the setae soon become closely compacted, till from about the middle they are touching, and at the first glance appear to form a rather long ragged membranous fringe right to the apex, but the true membranous fringe is very short, and quite concealed from above. On the male the fifth joint of the antennae has a short but acute spur, and the rami of the club are subequal in length, and considerably longer than the basal joint, on the females the fifth joint has a shorter and less acute spur, and the first joint of the club is only about two-thirds the length

(12) The sinuation of the base relied upon by Blackburn to separate F and FF is a very unsatisfactory character, and the words "strongly" and "feebly" used are misleading, as in co-types of *sinuaticollis* and *rustica* the difference at the base is but slight.

of the others, and these are scarcely longer than the basal joint.

A male from Minnipa Hill appears to be an aberrant member of this species, it differs from the other males in being slightly narrower, the bloom apparently absent (a slight amount of bloom, however, can be noticed from certain directions, suggesting that the bloom has been rubbed off) and the setae on the pygidium much less dense (although still fairly numerous). In general appearance this male is very close to a co-type of *sinuaticollis*, but that species is without short erect setae on the pygidium.

Group 6.

HAPLONYCHA OPACA, n. sp.

Pl. xxxiv., fig. 25.

Castaneous-red and opaque; under-surface and legs with dense, somewhat reddish hairs, a few straggling hairs in lateral gutters of pronotum; membranous fringe of elytra very short; pygidium with rather short, and not very dense semidecumbent setae.

Head with dense but small punctures behind clypeal suture; clypeus with denser and larger punctures about base, but becoming small towards apex, front face with a single row of large setiferous punctures across middle, but irregular on sides. Antennae with fourth joint not much longer than third, seventh-ninth forming a club. Maxillary palpi with penultimate joint much shorter than apical. *Prothorax* almost four times as wide as the median length, sides strongly rounded, front angles feebly produced and rounded off, hind ones completely rounded off; punctures sparse and very small. *Elytra* very feebly dilated to beyond the middle, geminate-striae feebly defined; punctures small and sparse, suture unarmed. *Pygidium* gibbous towards apex; with crowded and rather small punctures about base, becoming sparser posteriorly. Basal joint of hind *tarsi* slightly longer than second. Length, 21.25 mm.

Hab.—South Australia: Karoonda to Peebinga (G. E. H. Wright), Murray River (H. S. Cope), Darke Peake (P. G. Dolling). Type, I. 4636.

On dissection the penultimate joint of the maxillary palpi is seen to be a trifle shorter than the antepenultimate, and as the dorsal surface of the body is not iridescent it appears desirable not to refer the species to Group 4, and if not to that group it could only be referred to E of Group 6, but it is strikingly different to *pectoralis* and *pygmaea*: in

fact its curiously opaque velvety appearance is very different to that of any other species known to me. Of the seven specimens in the Museum, one has the rami of the club rather longer than on the others, but I can detect no other differences likely to be sexual. There are two specimens of the species from Ouyen (Victoria) in the National (Melbourne) Museum.

HAPLONYCHA RUFICOLLIS, n. sp.

Reddish-castaneous; head and elytra almost black, parts of abdomen deeply infuscated. Under-surface and legs with dense and somewhat reddish hairs, a few similar hairs close to each eye on upper-surface of head, and filling all the gutters of pronotum, pygidium glabrous; membranous fringe of elytra extremely short.

Head with crowded and somewhat irregular but not very large punctures, more crowded on a convex space at base of clypeus than elsewhere, and less crowded immediately behind the convex space; front face of clypeus with rather dense and moderately large punctures, but setae across middle confined to a single row. Antennae with third and fourth joints subequal and lightly transverse, seventh-ninth forming a club. Maxillary palpi with apical and antepenultimate joints of equal length, and conspicuously longer than penultimate. *Prothorax* very little more than twice as wide as the median length, sides strongly and evenly rounded, front angles produced but not very acute, hind ones completely rounded off, base strongly bisinuate with the median lobe conspicuous; punctures rather small and irregularly distributed. *Elytra* subparallel-sided; geminate-striae very conspicuous, the space between each pair impunctate and convex, but between pair and pair with numerous punctures and irregularly obliquely wrinkled; suture unarmed. *Pygidium* shining, moderately convex, with minute and rather sparse punctures. Hind *tibiae* much shorter than usual; basal joint of hind tarsi distinctly longer than second. Length, 17-19 mm.

Hab.—South Australia: Ooldea. Type, I. 7816.

The setae in the middle of the front face of the clypeus are in a regular row, but as it was upon the punctures that Blackburn founded his sixth and seventh groups, this species must be referred to Group 6, where it can only be associated with *clara*, from which it differs strikingly in colour, in being more parallel-sided, prothorax less transverse and with smaller punctures, and the legs considerably shorter and stouter. The clothing of the hind margins of the pronotum is more pronounced than is usual on species other than of Group 2. The general appearance of the insect is much like

many of the smaller *Dynastides*. The pygidium, although itself glabrous, is fringed with long hairs, these being much more conspicuous on the propygidium than is usual in the genus. On the male the rami of the club are about once and one-half the length of those of the female.

HAPLONYCHA DILATATA, n. sp.

Piceous-brown (almost black); prothorax and scutellum of a dingy-red, antennae paler. Sterna and legs with rather dense, whitish hairs, lateral gutters of pronotum with a few long hairs; elytra with membranous fringe very short; pygidium very sparsely clothed.

Head with dense punctures of moderate size; clypeus not specially convex at middle of base, front face of clypeus with rather dense punctures, but the setiferous ones across middle confined to a single row. Antennae with third and fourth joints rather short and subequal, seventh-ninth forming a club. Maxillary palpi with apical and antepenultimate joints rather long and equal, and distinctly longer than the penultimate. *Prothorax* not thrice as wide as long, sides strongly rounded, front angles produced and acute, hind ones rounded off; punctures numerous and rather small. *Elytra* rather strongly dilated to beyond the middle; geminate-striae distinct, the space between each pair rather narrow, convex, and impunctate, but with numerous punctures between pair and pair; suture unarmed. *Pygidium* with small, crowded punctures almost throughout; with a distinct elongate tubercle (or subcarinate swelling) in middle. Basal joint of hind *tarsi* distinctly shorter than second. Length, 11-12½ mm.

Hab.—Queensland: Cairns (J. A. Anderson and A. A. Girault). Type, I. 4642.

In Blackburn's table of Group 6, would be associated with *pectoralis* and *pygmaea*,⁽¹³⁾ and its elytral punctures are intermediate in character between those of the two species named, but in general appearance it is not very close to them; it is smaller than *pygmaea*, the elytra more dilated posteriorly and the pygidium very different. Four other specimens from Cairns appear to belong to this species, but differ in being entirely pale-castaneous, the antennal rami shorter, the elytra even more dilated posteriorly, and the tubercular swelling of the pygidium less evident, they are probably females, and the others are probably males.

(13) One specimen was labelled by Mr. Blackburn "*Sp. nov.*, near *pygmaea*."

MAECHIDIUS SAVAGEI, n. sp.

Pl. xxxvii., fig. 88.

Dull piceous-brown; legs not much paler, antennae and palpi castaneo-flavous. With short, stiff, depressed stramineous setae.

Head rather strongly and evenly convex between eyes, densely granulate-punctate; clypeus rather widely but deeply notched in front, each side obtusely trilobed. *Prothorax* with sides obtusely serrated, base strongly bisinuate, with the hind angles sharply acute and lightly produced, vaguely depressed along middle, and still more vaguely across middle; with dense, but rather small and shallow punctures. *Elytra* with almost regular series of rather small punctures, each at base with a small granule. *Pygidium* with a narrow median carina. Front *tibiae* obtusely tridentate, the third tooth almost in exact middle; hind *tibiae* with two series of small but acute tubercles, the external apical process rather short; hind *tarsi* with basal joint distinctly shorter than second and third combined, claws without basal quills. Length, 7-8 mm.

Hab.—South Australia (Rev. A. P. Burgess), Parachilna (Field Naturalists' Excursion). Type, I. 420.

On this, as on most species of the genus, there is a small shining granule at the base of each elytral puncture, and a depressed seta proceeds from each granule so that from some directions the elytra appear to be supplied with numerous strings of rather widely spaced beads. In general appearance it is like *sordidus*, but is smaller and without tarsal quills; from *clypealis* it differs in being darker and hind angles of prothorax very acute, etc.; it is also close to *modicus*, but the basal joint of the hind *tarsi* is shorter and stouter, and the clypeus is slightly more undulated. In Blackburn's table (*ante*, 1898, pp. 57-59) it would be associated with *ater*, and it is similar in size and shape to that species, but is not black, the clypeus is rather more deeply notched in front, the hind angles of the prothorax are rather more acute, the appearance as of rows of beads on the elytra is less conspicuous and the two basal joints of the hind *tarsi* are somewhat differently proportioned. On the male the hind *tibiae* near the apex and the three basal joints of the hind *tarsi* are clothed with more numerous long hairs than on the female. The club of the antennae is three-jointed on this and on all the following new species.

MAECHIDIUS HOPLOCEPHALUS, n. sp.

Pl. xxxvii., fig. 89.

Dull reddish-brown; antennae and palpi flavous. With thin, suberect, stramineous setae, becoming rather long on legs.

Head strongly convex and with large granules between eyes, with large punctures in front; clypeus deeply notched in front, and with three strong teeth on each side, the basal tooth more obtuse than the others. *Prothorax* rather strongly and evenly convex, sides obtusely serrated, base rather strongly bisinuate, the hind angles almost rectangular; with numerous distinct granules, each marking the base of a puncture. *Elytra* with close-set geminate rows of shallow, suboblong punctures, with indistinct granules. *Pygidium* with large shallow punctures, and without a median carina. Front *tibiae* strongly tridentate, the third tooth distinctly nearer base than apex; basal joint of hind tarsi slightly longer than second, claws slightly appendiculate at base, but without quills. Length, $6\frac{1}{2}$ -7 mm.

Hab.—Queensland, Cunnamulla (H. Hardcastle). Type, I. 815.

The size of *parvulus*, but the head very different. In Blackburn's table the species would be associated with *major* and *gibbicollis*, but it is very much smaller, and the sides of the clypeus and the mentum (this is conspicuously keeled along the middle) are very different. The appearance as of rows of beads on the elytra is very ill-defined on the species.

MAECHIDIUS CONSPICUUS, n. sp.

Pl. xxxvii., fig. 90.

Reddish-brown and shining; antennae flavous. Upper-surface with short, stiff, depressed, whitish setae, becoming conspicuously longer on under-surface, and still longer on legs.

Head conspicuously elevated between the eyes, and with rather large punctures; clypeus widely notched in front, the middle of the notch with a distinct subtriangular elevation, each side with three lobes, the front one subdentiform, the second more obtuse, and the third still more obtuse. *Prothorax* moderately convex, with a vague longitudinal impression and remnants of a still more vague transverse one, sides rather strongly serrated, and subangulate in middle, base strongly bisinuate, the hind angles slightly obtuse; with moderately large punctures, not very crowded about middle. *Elytra* with narrow striae, the interstices wide and with punctures cutting into each so as to give their margins a crenulated appearance, towards the sides each interstice becomes almost like a continuous series of small zigzags; without distinct granules. *Pygidium* with moderately large punctures, becoming crowded about apex, with a shallow median line. Front *tibiae* strongly tridentate, the third

tooth distinctly nearer base than apex, hind tibiae with two rows of granules, of which one row is larger than the other, but abruptly terminated; basal joint of hind tarsi slightly longer than second; claws without quills. Length, 10 mm.

Hab.—South Australia: Minnipa Hill (W. J. Spafford). Type (unique), I. 7967.

The hind tibiae are certainly not normal, but the median projection is not in the nature of a transverse carina (as on *tibialis* and in the description of *capitalis*), but is due to the abrupt termination of a longitudinal row of granules or denticulations, somewhat as on *rugosipes* (which Blackburn associated in his table with *tibialis*). It seems desirable therefore that this species should be associated with those mentioned, but from which (as from all others known to me) it may be distinguished by the head, and especially by the dentiform elevation (very distinct from the sides) on the front of the clypeus. The head at the base is not evenly convex, but there is a conspicuous flat-topped elevation abruptly terminated at each eye; from the sides the mentum appears to slope upwards to a central point; from in front it appears like a slightly truncated triangle, with the front face gently concave.

MAECHIDIUS SQUAMIPENNIS, n. sp.

Pl. xxxvii., fig. 91.

Blackish; legs obscurely paler, antennae castaneo-flavous. Upper-surface with short, stiff, depressed, pale setae, but in addition sides of prothorax and the elytra with large, elliptic, depressed scales; under-surface with clothing varying from stiff setae to short stout scales.

Head rather lightly convex, densely granulate-punctate; clypeus widely and very feebly notched in front, each side with a moderately distinct notch near apex, and a very feeble one towards the base. *Prothorax* moderately convex, sides strongly rounded and strongly but obtusely serrated, base bisinuate; with large, round punctures, becoming smaller and more crowded on sides. *Elytra* with geminate rows of shallow, suboblong punctures, each with a small basal granule; interstices feebly elevated. Front *tibiae* strongly tridentate, third tooth almost in the exact middle; claws without basal quills. Length, 8 mm.

Hab.—South Australia (Rev. A. P. Burgess). Type (unique), I. 406.

A subopaque species. As the hind legs of the type are missing it is impossible to place it in Blackburn's table beyond A, B; but the clothing of the upper-surface renders it abundantly distinct from all previously described species; on the pronotum the scales are confined to the sides, but on each

elytron they are in five irregular rows (the second and third subgeminately arranged). The appearance as of strings of beads on the elytra is rather distinct from some directions, but is interfered with to a certain extent by the scales. The mentum, when viewed perpendicularly, appears like a flat, shining semicircle.

MAECHIDIUS SCULPTIPENNIS, n. sp.

Pl. xxxvii., fig. 92.

Blackish; parts of legs obscurely diluted with brown, antennae and palpi somewhat paler.

Head rather strongly convex, and with coarse crowded punctures, becoming somewhat smaller on clypeus: this deeply notched in front, and with each side strongly trilobed. *Prothorax* moderately convex, sides strongly rounded and obtusely serrated, base strongly bisinuate, with the hind angles acute, with a vague median depression; with crowded and large punctures, becoming smaller on sides. *Elytra* very irregularly sculptured. Front *tibiae* tridentate, two first teeth large and close together, the third much smaller and almost in the exact middle, hind *tibiae* obtusely serrated; basal joint of hind tarsi not much longer than second: each claw with a conspicuous quill. Length, $9\frac{1}{2}$ -10 mm.

Hab.—South Australia: Mount Lofty (S. H. Curnow and A. M. Lea). Type, I. 4811.

In Blackburn's table would be associated with *macleayanus*, which has similarly sculptured head and prothorax, but very different elytra. in many respects it agrees with the description of *sexdentatus*, but the size is somewhat larger, the lateral projections of the clypeus are too obtuse to be called triangular, and the hind angles of the prothorax are acute and directed slightly outwards. The geminate rows of punctures on the elytra are conspicuous, and each puncture has a distinct shining granule, so that the appearance as of strings of beads is unusually pronounced; but on each elytron there are three wide, shining interstices, strongly crenulated by the punctures, about half of which are without granules. There are no true granules on the head, but there appear to be numerous ones from certain directions; the notch in front of the clypeus passes along the lower lip, and terminates on the mentum, which has a distinct median fovea.

MAECHIDIUS INSULARIS, n. sp.

Pl. xxxvii., fig. 93.

Dull-black; elytra and parts of legs obscurely diluted with red; antennae flavous. Clothed with thin, depressed pale setae.

Head rather strongly convex and densely granulate-punctate between eyes; clypeus deeply notched in front, each side strongly but somewhat obtusely tridentate. *Prothorax* rather strongly and evenly convex, sides moderately rounded and very obtusely serrated, each side of base widely excised, the hind angles rather obtuse; with crowded but (for the genus) small and shallow punctures. *Elytra* with close-set rows of very shallow punctures. *Pygidium* densely granulate-punctate. Front *tibiae* strongly tridentate, third tooth somewhat nearer base than apex; basal joint of hind *tibiae* almost as long as second and third combined; claws each with a basal quill. Length, $7\frac{1}{2}$ -8 mm.

Hab.—Northern Territory: Melville Island (W. D. Dodd). Type, I. 4813.

In Blackburn's table would be associated with *emarginatus*, from which it differs in its much smaller size and very different clypeus; it has the general appearance as of *fissiceps* on a very small scale. The rows of punctures on the elytra are very close together, and are scarcely geminate in arrangement; each puncture is like a small elliptic ring (rather than a small pit) the central part of which is on a level with the rest of the elytra; the setae are rather more numerous than usual, but on the elytra they are confined to regular series. The mentum is almost semicircular in outline, and gently depressed in the middle.

MAECHIDIUS LATERIPENNIS, n. sp.

Pl. xxxvii., fig. 94.

Dull reddish-castaneous; antennae paler. With thin, short, depressed, pale setae.

Head rather strongly convex, and densely granulate-punctate between eyes, and on a feeble median elevation at base of clypeus; clypeus deeply notched in front, each side with three prominent processes, of which the first is rather acute, the second somewhat obtuse, and the third still more obtuse. *Prothorax* moderately convex, sides moderately rounded and obtusely serrated, base widely and rather shallowly excised on each side, hind angles subobtuse, a shallow but distinct transverse depression on each side of middle; with fairly large and dense punctures, towards sides becoming crowded and granulate. *Elytra* with close-set, subgeminate rows of shallow punctures. Front *tibiae* strongly tridentate, the third tooth distinctly nearer base than apex; claws each with a basal quill. Length, 6- $7\frac{1}{2}$ mm.

Hab.—Northern Territory: Darwin (N. Davies). Type, I. 4812.

I think this species should be regarded as having the hind angles of the prothorax excised, although the excisions are less pronounced than in some species, they are much as on *clypealis*, *acutangulus*, and *imitator*, commented upon by Blackburn as doubtful in this respect; the species therefore is associated with AA, BB (if not referred there in Blackburn's table it could hardly be referred to AA, E, as the angles are not acute, although the base is strongly sinuate, or to E, as the base is strongly sinuate and the angles obtuse), and with *excisicollis*, from which it differs in being much smaller and in many other particulars; in size and general appearance, and in its deeply notched clypeus, it seems quite close to *hoplocephalus*, but the claws of that species are without basal quills. Four of the five specimens under examination have on each elytron a shining subcarinate elevation from the shoulder to the basal third (apparently as in *froggatti*, from the description of which, however, it differs in many particulars), and commencing near it (but nearer the side) another one that is continued almost to the apex, where it turns round and terminates half-way to the suture; the latter is somewhat suggestive of the sexual brands of *Automolus*, but it is certainly not a feminine character, as the basal joints of the hind tarsi have the rather dense clothing of many males of the genus; the fifth specimen is entirely without the shining lines, and the basal joint of its hind tarsi (the only one left) is without sexual adornment. On one of the males (otherwise normal) two of the joints of each club are longitudinally cleft down the middle, so that the club appears to be five-jointed. *Antennalis*, described as having a five-jointed club, and apparently with very similar elytra, appears to have the clypeus strikingly different. The mentum is subtriangular and gently concave.

MAECHIDIUS ATRATUS, Burm., var.

Two specimens from Victoria (Emerald) would be associated with *atratus* in Blackburn's table, and in size and general appearance they are close to that species, but they are shining instead of opaque, and the punctures of the upper surface are considerably deeper (although scarcely wider) and much more conspicuous, those of the pronotum being as on *maeleoganus*. The situation of the clypeus and base of prothorax and the curious dentition of the front tibiae are exactly as on typical specimens of *atratus*, so that it does not appear desirable to regard these specimens as representing more than a variety.

MAECHIDIUS PARVULUS, Macl.

M. acutangulus, Waterh.

Pl. xxxvii., figs. 95 and 148.

M. parvulus was passed over by Blackburn as being unidentifiable from the description. I have, however, examined the type, and it agrees well with the specimen he identified as *acutangulus*, and which agrees with the description, and also with a specimen sent by Mr. Arrow as such.

MAECHIDIUS CAPITALIS, Blackb.

The type of this species is a peculiarly robust convex specimen, with the head much more sinuous on one side than on the other; it is now in the British Museum. I have seen nothing at all close to it, and think it should not have been made into a type.

MAECHIDIUS SORDIDUS, Böj., var.

Pl. xxxvii., fig. 96.

A Sydney specimen was standing, without comment, with other specimens of *sordidus* in Blackburn's collection; but it differs from the typical form (as he identified it) in being of a brighter colour, with the clothing brighter and longer (quite conspicuously so, even to the naked eye, on the head and prothorax). A similarly coloured and clothed specimen (from Brisbane) was in his collection, and I have seen others from Galston, Sydney, and Mittagong. In the table these specimens would fall into the place assigned to *sordidus*, and they appear to represent a variety only of that species.

MAECHIDIUS FISSICEPS, Macl. (pl. xxxvii., fig. 97).

M. LATUS, Waterh. (pl. xxxvii., fig. 98).

M. EXCISICOLLIS, Blackb. (pl. xxxvii., fig. 99).

M. CAVICEPS, Blackb. (pl. xxxvii., fig. 100).

M. CRENATICOLLIS, Blackb. (pl. xxxvii., fig. 101).

M. TIBIALIS, Blackb. (pl. xxxvii., figs. 102 and 149).

M. ATER, Waterh. (pl. xxxvii., fig. 103).

M. RUGOSICOLLIS, Macl. (pl. xxxvii., fig. 104).

M. CLYPEALIS, Blackb. (pl. xxxvii., fig. 105).

M. LONGITARSIS, Waterh. (pl. xxxvii., figs. 106 and 150).

M. SPURIUS, Kirby (pl. xxxvii., fig. 107).

Some outline details of these species are given for purposes of comparison.

CAULOBIOUS PUNCTULATUS, Blackb.

This species was named as from the type only, but there was a specimen labelled as a co-type in Blackburn's collection and from the original collector and locality.

Var. (?).—There are also in the Museum seven specimens from the Warren River (Western Australia) that appear to belong to the species, but of these only one has the head and prothorax darker than the elytra, but its metasternum is not also dark; they all have the elytral punctures in irregular double rows, and a few are confluent, so that they appear like single, transverse, angular punctures, on the co-type this is more pronounced, so that they are much coarser and in irregular single rows. On the Warren River specimens also the elytral setae, over most of the surface, appear to be in quite regular double rows, but on the co-type these are less conspicuous. All eight specimens have a long hair on each shoulder.

CAULOBIOUS CAVICEPS, n. sp.

Pl. xxxvii., figs. 108 and 151.

Of a rather dingy-castaneous; antennae paler, parts of legs infuscated. Clothed with semi-decumbent, stramineous setae, on the elytra seriate in arrangement; four basal joints of each tarsus fasciculate on lower-surface.

Head with rather dense, asperate punctures; clypeus rather long, apex lightly incurved to middle, sides moderately curved and increasing in width to base, where each forms an ocular canthus. Club elongate. *Prothorax* not twice as wide as long, apex rather strongly incurved to middle, sides subangulate in middle, base bisinuate; granulate-punctate, the punctures as dense as on clypeus. *Elytra* feebly dilated to about middle, with geminate rows of asperate, setiferous punctures. *Front tibiae* strongly bidentate at and near apex, and with a small basal tooth; tarsi elongate. Length, 8 mm.

Hab.—Western Australia: Beverley (E. F. du Boulay). Type (unique), I. 7966.

In general appearance like a small specimen of *Atermonocheila longipes*, but with the curious front tibiae of *Caulobius* and *Automolus*. Of the known species of *Caulobius* it is nearer to *punctulatus* than to any other: but it differs in being larger, wider, and the clypeus longer, with its vertical front face not triangularly dividing the mentum into two lobes. Three interstices on each elytron are slightly elevated and glabrous, being thus rendered rather distinct; on the head the setae are rather dense between the eyes, becoming sparser on clypeus, except that the hind wall of the front elevation is rather densely clothed with short setae. The lateral and front margins of the clypeus are rather strongly elevated, rendering the front part of the head conspicuously concave. The type is probably a male, and the peculiar clothing of the tarsi (suggestive of *Ocnodus*), is possibly a masculine feature.

SCITON FLAVOCASTANEUS, n. sp.

Pl. xxxvii., fig. 109.

Flavo-castaneous; antennae flavous. Under-surface rather sparsely clothed, upper-surface glabrous, except for a few hairs in lateral gutters of pronotum.

Head with numerous rather small punctures, becoming crowded near eyes, with a depression behind middle of clypeal suture; clypeus irregularly concave, with somewhat larger and sparser punctures than between eyes, front vertical and truncate, each side rather strongly incurved. Antennae nine-, club three-jointed. *Prothorax* more than thrice as wide as long, sides moderately rounded, hind angles rounded off, the front ones lightly produced and acute; punctures rather sparser, but otherwise much as on head. *Scutellum* impunctate at apex and along middle. *Elytra* with punctures not very large, but in places dense and frequently confluent (subvermiculate); striation well-defined, but the geminate pairs not much closer together than the others. Front *tibiae* strongly tridentate; two basal joints of hind tarsi subequal. Length, $12\frac{1}{2}$ mm.

Hab.—South Australia: Ooldea. Type (unique), I. 7869.

A highly polished species, in this respect differing strikingly from *ruber* and *varicollis* which are also wider, differently coloured, and with much less conspicuous punctures; *paullus* is slightly smaller, opaque, and otherwise very different; the mentum is concave with the notch on each side in front even more pronounced than on *ruber*.

In Blackburn's table of the *Sericoides* (*ante*, 1898, p. 34) *Sciton* is noted as having "front of clypeus with sharp lateral angles, its sides straight," but on *ruber* (the typical species), on *paullus*, and also on the present species, the clypeus whilst truncate in front, has each side quite conspicuously sinuous.

SCITON RUBER, Blackb. (pl. xxxvii., fig. 110).

S. PAULLUS, Blackb. (pl. xxxvii., fig. 111).

Outlines of the clypeus are given for comparison with that of the above species.

OCNODUS FALLAX, Blackb.

Pl. xxxvii., fig. 112.

On the type male of this species the three basal joints of the front tarsi are more dilated than on the female, and the claw-joint is somewhat inflated and conspicuously lop-sided; the latter feature may have been considered accidental by Blackburn, and so not mentioned, but it is exactly the same on a male taken at Cue by Mr. H. W. Brown.

A female from Ooldea may belong to the species, but its elytral punctures are very much smaller and nowhere confluent, and the rami of the club are somewhat shorter than on other females; it is also somewhat smaller (a still smaller specimen from Lennonville with normal punctures is before me, however), but otherwise agrees so well with co-type females that it appears better to regard it as a probable variety, than as a distinct species (till at any rate a male is available for comparison).

O. SPINICOLLIS, Blackb., Ooldea (pl. xxxvii., fig. 113).

OCNODUS UNIDENTATUS, n. sp.

Pl. xxxvii., fig. 152.

Very dark reddish-brown, darker on upper-surface than under; antennae paler. Upper-surface glabrous, except for a few setae in lateral gutters.

Head with fairly numerous, sharply defined punctures between eyes, but a polished impunctate space in middle of base; clypeus with somewhat larger and more crowded punctures, sides evenly rounded but middle of apex truncate; labrum not projecting beyond clypeus, and rather distant from its summit; mentum depressed along middle, and with sharply defined punctures. *Prothorax* evenly convex, sides rounded in middle, oblique to apex, subarcuate to base; punctures much as on head between eyes. *Elytra* with sutural interstice on each well-defined, slightly dilated near base, but elsewhere evenly convex and with two regular rows of punctures, striation elsewhere (except marginal) feebly defined or absent; punctures rather larger and more crowded than on prothorax. *Pygidium* with crowded and irregular punctures, and with a median carina. Front *tibiae* strongly produced at apex, and without teeth behind same. Length, 8 mm.

Hab.—Queensland: Coen River (W. D. Dodd). Type (unique), I. 4821.

A highly polished species, appearing black to the naked eye, the cephalic punctures are very sharply defined. The basal angles of the prothorax, as seen from above, appear to be quite sharply pointed, but when viewed at right angles are seen to be right angles slightly rounded off. It is the only known species with unidentate front tibiae.

Two specimens from the Northern Territory (Daly River and Darwin, H. Wesselman) and one from North-western Australia (Roebourne, J. P. Tepper) appear to belong to this species, but differ in having the punctures on the head decidedly smaller and denser (especially those behind the

clypeal suture), those on the pronotum also smaller and denser, but the labrum mentum and front tibiae are as on the type. The two specimens from the Territory are also somewhat paler.

On this and all the following species the antennae are nine-jointed, with the club three-jointed; the prothorax on all of them is from a little more than three to nearly four times as wide as long (but the degrees are too close to be of use in descriptions), its apex is lightly bisinuate, with a feeble granule marking the junction of the sinuations.

OCNODUS BIDENTATUS, n. sp.

Pl. xxxvii., figs. 114 and 153.

Black or blackish; legs not much paler, antennae and palpi bright-castaneous. Upper-surface glabrous, except for a few setae in the lateral gutters.

Head rather large and convex, with densely crowded punctures, less crowded about base than elsewhere; clypeus strongly rounded; labrum not produced beyond clypeus, and moderately distant from its summit; mentum not depressed along middle, with an irregular row of punctures in front, elsewhere without conspicuous punctures. *Prothorax* rather strongly convex, sides rounded in middle, arcuate to base, front angles produced but rounded off; punctures sharply defined and larger than on head but not so dense. *Elytra* with large punctures in almost regular rows about suture and sides, but not quite so regular elsewhere. *Pygidium* with coarse, crowded punctures, and an irregular median carina. Front *tibiae* strongly produced at apex and with a conspicuous tooth at about one-third from apex. Length, $7\frac{1}{2}$ -8 mm.

Hab.—South Australia: Murat Bay (Dr. C. T. Abbott), Ooldea (A. O. Jones). Type, I. 4823.

A small black coarsely sculptured species, apparently allied to *porosus*, but with the front tibiae bidentate; only two species have been previously named with similar tibiae, and of these *scissiceps*⁽¹⁴⁾ differs strikingly in many details of the head and general sculpture; *suspiciosus* is a narrower species, with much smaller punctures and very different clypeus and labrum. The tufts on the tarsi, and the clypeal suture are less conspicuous than usual. The hind angles of the prothorax, as seen from above, appear to be acute and rather small, with a notch before each, but from the side each is seen to be more than a right angle.

(14) The type is now in the British Museum, but I examined it prior to its being sent there.

OCNODUS BILOBUS, n. sp.

Pl. xxxvii., fig. 115.

Dark castaneous-brown; antennae and palpi paler. Upper-surface glabrous, except for a few setae in the lateral gutters.

Head with crowded punctures, larger on than behind clypeus; clypeus conspicuously bilobed; labrum deeply notched, the sides projecting slightly in front of clypeus; mentum strongly impressed along middle, with large and dense punctures. *Prothorax* rather lightly convex, sides gently rounded, oblique to apex, arcuate to base; punctures about as large as those between eyes, but sparser. *Elytra* with subsutural and lateral striae well-defined, but the others feeble or absent, punctures moderately large and dense. *Pygidium* with rather crowded punctures, and a feeble median carina. Front *tibiae* produced at apex into a rather strong tooth, a somewhat obtuse tooth near apex, and a still more obtuse one in middle. Length, 8-9 mm.

Hab.—North-western Australia: Fortescue River (W. D. Dodd). Type, I. 4820.

In general appearance strikingly close to *lugubris* and *suspiciosus*. There is a deep notch common to the clypeus labrum and mentum, the labrum is not very prominent, but its upper edge is close to the upper edge of the clypeus, so in Blackburn's table (*ante*, 1907, p. 278) it would be associated with *porosus*, from which it differs considerably in the punctures and other features; in *lugubris* the labrum is deeply notched, but not the clypeus, in *suspiciosus* the front tibiae are bidentate. From above the hind angles of the prothorax appear to be acute, but from the sides are seen to be gently rounded off and rather larger than right angles; the elytral striation is but feebly defined, but such as it is it appears to mark off the punctures into very irregular, alternate series, of two and of three rows; there is a highly polished, impunctate, medio-basal space on the head, but most of it is usually concealed by the overlapping prothorax.

OCNODUS TRIDENTATUS, n. sp.

Pl. xxxvii., fig. 154.

Dark castaneous-brown; antennae and palpi paler. Upper-surface glabrous, except for a few short setae in the lateral gutters.

Head with crowded punctures, quite as dense behind as in front of clypeal suture; clypeal margin rather strongly elevated in front, and lightly incurved to middle; labrum deeply notched, the sides scarcely projecting beyond clypeus;

mentum strongly impressed along middle with coarse punctures. *Prothorax* moderately convex, sides gently rounded, feebly arcuate towards base; punctures less crowded than on head, but similar in size. *Elytra* with rather dense and large punctures, divided off into irregular double and triple rows by feeble striae. *Pygidium* with coarse punctures. Front *tibiae* strongly tridentate. Length, 7-8 mm.

Hab.—Northern Territory: Daly River, Darwin (H. Wesselman). Type, I. 7817.

The elytral striation is rather more defined than on the preceding species, and somewhat similarly appears to divide off the punctures into irregular rows; but it differs from that species in the less conspicuously bilobed apex of clypeus, hind tooth of front *tibiae* larger and more acute, and hind angles of prothorax not quite the same, as from above they appear to be almost rectangular. In Blackburn's table would be placed in B, but the character of the basal edging of the pronotum that he used for C (*fallax* and *lepidus*) and CC (*lugubris*) seems an unworkable one, it is certainly somewhat finer on *lugubris* than on the others, but the degree is not very pronounced; the present species has the edging as on *lugubris*, from which it differs in having the clypeus (as seen from above) slightly incurved to its middle instead of truncate; it is considerably smaller than *fallax* and *lepidus*; in general appearance it is very close to *suspiciosus*, but the front *tibiae* are tridentate.

OCNODUS SIMPLEX, n. sp.

Bright reddish-castaneous; antennae and palpi paler, club almost flavous. Upper-surface glabrous, except for a few setae in the lateral gutters.

Head with crowded punctures, uniform throughout except for a polished medio-basal space; clypeus rounded on the sides, truncate in front; labrum deeply notched, scarcely projecting in front of clypeus, and distant from summit of same; mentum with large but very shallow punctures. *Prothorax* moderately convex, sides gently rounded; punctures somewhat irregular. *Elytra* with striation well defined only near suture and sides; punctures large and mostly in irregular rows. Front *tibiae* tridentate. Length, $9\frac{1}{2}$ -11 mm.

Hab.—North-western Australia: Junction of Fitzroy and Margaret Rivers (Calvert Expedition). Type, I. 570.

In general appearance somewhat like small pale specimens of *fallax*, but front tarsi of male with claw-joint quite symmetrical, and the pygidium of the female very different to that of the female of *fallax*. From above the hind angles of the prothorax appear to be somewhat obtuse, but from

the sides they are seen to be quite rounded off; its punctures are sparser than on the head, at their densest they are somewhat similar in size to those there, but where sparser they are distinctly larger. The sexes are well-defined, on the males the three basal joints of the front tarsi are wider and much more densely clothed than on the female; and its pygidium has large evenly distributed punctures; on the female the pygidium has a large, subtriangular, polished and impunctate apical space.

LIPARETRUS.

The species of this genus are abundant in many parts of Australia in spring, on the foliage and flowers of eucalypti, and on the flowers of many other myrtaceous trees and shrubs, but some appear to be attracted by almost any kind of flower.

Macleay divided the genus into two sections, by the antennae being nine- or eight-jointed (the club is always composed of three joints), but Blackburn has pointed out that some species of his Section 1 are really eight-jointed), whilst only three (*monticola*, *ferrugineus*, and *erythropygus*) can remain in Section 2, the others belonging to *Automolus* (and one to *Caulobius*). Macleay split up Section 1 into subsections and groups by the structure of the clypeus and the clothing (or want of it) of the upper-surface, and in general his divisions are natural and easy to follow. Blackburn, however, considered the front tibiae and basal joint of hind tarsi, as (after the antennae) more important; so far as the front tibiae are concerned his divisions are easy to follow, but the divisions dependent upon the hind tarsi are often unsatisfactory (in particular Groups 5, 6, and 7), and probably had he attached higher importance to the clypeus a more satisfactory arrangement would have been prepared. By either system species apparently very closely allied are often widely separated, and, also by either system, a slight amount of abrasion may cause specimens of many species to be referred to groups or subsections other than their correct ones.

Many species strongly resemble others from which they are distinguished by unmistakably salient features of the antennae and front tibiae, so that superficial comparisons are not to be altogether relied upon, and in every instance it appears desirable to count the joints of the antennae; not always an easy process; Blackburn, himself, although paying very careful attention to the antennae, was deceived in at least one instance (see notes under *nigriclavus*). Many species vary in the colour of the elytra from red to black, the pygidium and propygidium also so vary, but less frequently than the elytra.

Where there has been a possibility of doubt as to which group a species should be referred to, I have placed it in the group that appears to be its correct one, but have also compared it with species of the doubtful group or groups.

LIPARETRUS VILLOSICOLLIS, MacL.

Pl. xxxvii., figs. 136, 137.

A female of this species (from Gisborne) has the black part of the base of the elytra wider (especially beyond the scutellum) than usual, and the suture, sides, and apex distinctly infuscated.

LIPARETRUS CAPILLATUS, MacL.

A male from the old collection, and without locality label, agrees well with the original description of *capillatus* (except that the front angles of the clypeus are feebly produced to one side, although much less conspicuously so than on the other species of Macleay's first subsection), and also with Blackburn's comments upon that species; it also fits exactly into the position assigned to it in Blackburn's table. A second specimen (from Badgebup, Western Australia), structurally agrees perfectly with it, but has the clothing of the head and pronotum much darker (this would refer it to FF, of Group 2), but I believe this character to be non-specific; both have a fairly close-set fringe of short, stiff reddish setae, at the apex and apical sides of elytra.

LIPARETRUS MASTERSI, MacL.

Pl. xxxvii., fig. 138.

Mr. Blackburn considered this species as doubtfully distinct from *germari*, but there are before me two specimens labelled by him as *mastersi* and *germari* (the former from Western Australia, the latter from South Australia), and they certainly appear to be distinct; they present the differences mentioned by Macleay. The specimen labelled *mastersi*, and one (from Kalgoorlie) that agrees with it, have fairly numerous hairs on the elytra in addition to those at the base, but the species was referred to Group 2, characterized by "elytra glabrous or nearly so."

LIPARETRUS JUVENIS, Blackb.

Pl. xxxvii., fig. 139.

Six specimens from the Daly River (Northern Territory) appear to belong to this species, or at least to represent a variety of it; they differ from the types in being slightly smaller, and elytra slightly paler and less iridescent. The

upper part of the propygidium, and also of the pygidium, has squamiform setae on some of the specimens, but they appear to be easily abraded, as others have those parts quite glabrous; hence their position in Group 4 depends on their state of preservation; in good condition they would be referred to H, II, to no species of which do they look at all close; but with the hind parts abraded they would be referred to HH, II, and there associated with *juvenis*. The punctures on the head are not confluent, but I cannot regard them as sparse, either on the types or on the Daly River specimens.

LIPARETRUS NIGROUMBRATUS, Blackb.

This species occurs in New South Wales, Victoria, Tasmania, and Flinders Island, as well as in South Australia. In the original description all that was said of the clothing of the hind parts was "*pygidio propygidioque longe fulvo-pilosis*," but it is rather peculiar (there are a co-type and other specimens named by Blackburn in the Museum) on specimens in good condition it is almost white, and consists of long straggling hairs, and rather dense pubescence (scarcely setae), rather closely applied to the derm; on some specimens there appears to be even a third kind of clothing: rather short setae at right angles to the derm (but possibly these are remnants of broken hairs). In the table the species was placed in Group 5, but the basal joint of the hind tarsi (when the full length of each is visible) is seen to be distinctly longer than the second. The colour variety, described from Kangaroo Island, is equally as common as the typical form, and on a rare variety the elytra are much darker (almost piceous-brown).

LIPARETRUS SERICEUS, Maccl.

On this beautiful species (fairly common in the southern parts of Queensland) the pygidium and propygidium are occasionally reddish.

LIPARETRUS IRIDIPENNIS, Germ.

On some females of *iridipennis* the elytra (except for a basal infuscation) are obscurely reddish; the lateral fringe of the pronotum was tabled by Blackburn as "whitish," it is often whitish at the base, but usually becomes considerably darker in front.

LIPARETRUS TUBERCULATUS, Lea.

In Blackburn's revision the statement was made that this species was practically undescribed, and it was assumed that my reference of it to Macleay's Sec. 1, Sub-sec. 3, c,

was erroneous; in Blackburn's table it was placed in Group 19 (a group characterized by having the antennae seven-jointed). The antennae, however, are nine-jointed, and the two basal joints of the hind tarsi are equal or almost so (from some directions the first appears to be slightly the longer, but from others slightly the shorter). Regarding them as equal the species should be referred to Group 7, and there associated with *gracilipes*, of which in fact it appears to be a variety; it appears to be a female, with the tubercle on the propygidium much more conspicuous than usual, and without the "two short longitudinal furrows" upon which special stress was laid in the original description (in long series of *gracilipes* these furrows appear to be quite as often absent as present, but the male of the species is very distinct by its bifasciculate abdomen).

LIPARETRUS PARVIDENS, Macl.

On this species (a common one about Brisbane) the pygidium and propygidium are more often black than dark-red (as on the type).

LIPARETRUS OBTUSIDENS, Macl.

In Blackburn's table this species was associated with *parvidens* as having the "front of clypeus feebly and obtusely tridentate," but the teeth of the male, although much less acute than on *tridentatus*, are quite conspicuous (much more so than on the male of *parvidens*). The species occurs in Victoria, as well as in New South Wales.

LIPARETRUS ROTHEI, Blackb.

The type of this species was not in the Blackburn collection when I examined the types, and was not listed as being in the British Museum. There was, however, a specimen in the Blackburn collection standing with a reversed label⁽¹⁵⁾ that appears to belong to the species, and was from the head of Yorke Peninsula; it is without the apical fringe of the elytra of the type, but this appears to be a sexual feature, as of eight specimens (taken on the Murray River by Mr. F. R. Zietz) before me, three have a very conspicuous fringe, while five are without one, as the three have the abdomen considerably larger and more convex than the five, the difference would appear to be sexual, the three being females. The largest specimen is 4 mm. (the length of the type), the smallest not quite 3 mm. At the time of its description Blackburn was in doubt as to the number of

(15) Signifying doubt, or to be looked into.

joints of the antennae, but later (when tabulating the genus) the species was placed in a nine-jointed group. Owing to the close approximation of the joints between the second and club, I could not count these clearly with a Coddington lens, but under a compound power it was seen that there were nine joints, of which the fifth and sixth were very closely applied to the club; the upper tooth of the front tibiae is very small, and on some specimens almost approaches obliteration.

LIPARETRUS IMPRESSICOLLIS, Macl.

Three specimens, from Sydney and Galston (New South Wales) differ from the typical form of this species in having the elytra of a brighter red, the propygidium, pygidium, and three apical segments of abdomen are also red; their pygidium has an irregular median carina, that is scarcely traceable on the typical form.

LIPARETRUS DISCIPENNIS, Guer.

Two specimens from Stanthorpe (Queensland) differ from the normal form of this species in having the prothorax and elytra somewhat shining, and with much more conspicuous punctures; but as they exactly fit into the position assigned to the species in Blackburn's table, and in other respects agree with normal specimens, I presume they represent but a variety.

LIPARETRUS FERRUGINEUS, Blanch.

A male before me has the clothing of the pronotum confined to conspicuous fringes at the sides and apex, but otherwise agrees with normal males; four females are entirely without the apical fringe (they are in good condition and do not appear to be abraded), and its absence would therefore cause them (in Blackburn's table) to be referred to Group 16 (instead of to Group 15).

LIPARETRUS FALLAX, Blackb.

I can see no difference whatever in the hind angles of the prothorax of the type of *fallax* and specimens identified by Mr. Blackburn as *atriceps*, but those of the former were tabulated as "quite defined" and of the latter as "rounded off (non-existent)." Looking at them at right angles they are seen to be rounded off, but from some directions (especially if a few hairs are in the way) they appear to be obtusely angular.

LIPARETRUS ABNORMALIS, Macl. (pl. xxxvii., fig. 140).

L. KREUSLERAE, Macl. (pl. xxxvii., fig. 141).

L. XANTHOTRICHUS, Macl. (pl. xxxvii., fig. 142).

L. FIMBRIATUS, Blackb. (pl. xxxvii., fig. 143).

L. NECESSARIUS, Blackb. (pl. xxxvii., fig. 144).

L. DISTINCTUS, Blackb. (pl. xxxvii., fig. 145).

Some outline details of these species are given for purposes of comparison.

Group 1.

LIPARETRUS NIGER, n. sp.

Pl. xxxvii., fig. 116.

♂. Black; front tibiae, antennae (club excepted) and palpi more or less reddish. Front of head, pronotum (including disc) and elytra about base and near suture, with erect, straggling hair, varying from dingy-whitish to dark-brown; under-surface, hind parts⁽¹⁶⁾ and legs with denser and mostly whitish hair.

Head with crowded and more or less confluent punctures, becoming sparser and larger on clypeus; sides and apex of the latter rather strongly elevated, apex truncate, its sides acute and produced. Antennae nine-jointed. *Prothorax* with sides strongly rounded, hind angles rounded off, the front ones acute; with numerous fairly large punctures, mixed with smaller ones on disc, becoming crowded and more uniform in size on sides. *Elytra* with rather large punctures, becoming smaller towards side and apex, geminate-striae irregular. *Hind parts* with punctures much as on disc of pronotum. Front *tibiae* very obtusely tridentate; basal joint of front tarsi narrow at base, inner edge then suddenly dilated and keeled, front claws considerably thickened at base, basal joint of hind tarsi distinctly shorter than second. Length, 10 mm.

Hab.—Western Australia: Kalgoorlie. Type (unique), I. 7834.

As the elytra are clothed beyond the base (although the clothing there is not very dense) the species belongs to Group 1, and there it would be associated with *ater*, from the description of which it differs in having the punctures of the head not "minute," prothorax shining, with numerous fairly large punctures and the geminate-striae of the elytra feeble; Blackburn, in commenting upon *ater*, considered it possibly a variety of *phoenicopterus*; the type of this differs from the male of *phoenicopterus* in having the clypeus truncate in front, and less produced at the sides, larger punctures, sparser clothing, black elytra, and very obtuse teeth to front tibiae.

(16) The propygidium and pygidium are the parts referred to as hind parts.

LIPARETRUS INSIGNIS, n. sp.

Pl. xxxvii., fig. 117.

♂. Black; antennae (club excepted) of a dull-red. Head, pronotum (parts of disc excepted) under-surface, hind parts, and legs with long, whitish hair.

Head with crowded and in places confluent punctures, becoming larger and sparser on clypeus; sides of the latter somewhat sinuous and lightly elevated, apex more elevated, truncate or almost so, and feebly or not at all produced at sides. Antennae nine-jointed. *Prothorax* with sides strongly rounded, hind angles rounded off, front ones produced and acute; with numerous (but not crowded) rather small punctures, and with larger ones scattered about, sides with rather dense punctures, surface finely shagreened. *Elytra* with fairly large punctures, becoming smaller and denser on sides and apex; geminate-striae well-defined. *Hind parts* shagreened and with numerous rather small punctures. Front *tibiae* strongly tridentate; front tarsi with the basal joints keeled, front claws thickened at base; two basal joints of hind tarsi subequal. Length, $10\frac{1}{2}$ -13 mm.

Hab.—Western Australia: Kuminin (E. F. du Boulay), Cue (H. W. Brown). Type, I. 7833.

The largest black species known to me; of the six specimens (all males) under examination two have numerous hairs on the elytra, on two they are sparse and two others have the elytra glabrous (except for a few hairs at the base and sides), but as the four latter specimens are evidently abraded, the species should be referred to Group 1. At first glance the specimens resemble the preceding species, but they may be at once distinguished by the front tarsi, on that species the basal joint is narrow at the base and then suddenly dilates forward, with the keeled inner portion scarcely half the length of the outer edge; on the present species the inner edge is not suddenly dilated, is very little shorter than the outer, and is more acutely keeled, the claws and the derm and clothing of pronotum are also different; on all six specimens the elytra are terminated by a short reddish membranous fringe, of which there is not a trace (possibly owing to abrasion) on the type of the preceding species. The basal joint of the hind tarsi is about the length of the second (certainly not longer), but from some directions it appears to be slightly shorter. The clothing of the pronotum is not confined to the margins, but the middle of the disc is glabrous. If the elytra were regarded as glabrous, the species would be referred to Group 2, all the previously described species of which have reddish elytra.

Group 2.

LIPARETRUS SEMICASTANEUS, n. sp.

Pl. xxxvii., fig. 118.

♂. Black; elytra, abdomen, legs, antennae, and palpi reddish-castaneous. Clothed with long, reddish or stramineous hair, but a narrow transverse portion of pronotum and elytra (except on sides) glabrous.

Head with crowded punctures, more or less confluent, becoming sparser and larger on clypeus; sides of the latter conspicuously elevated and lightly bisinuate, front wide and obtusely trilobed, scarcely produced at sides. Antennae nine-jointed. *Prothorax* with hind angles strongly rounded off, front ones produced and acute; with rather small and not very dense punctures, but becoming crowded on sides. *Elytra* with fairly large punctures, becoming smaller and more crowded at the sides and posteriorly, geminate-striae well defined. Front *tibiae* strongly tridentate; basal joint of front tarsi not keeled, but spinose towards and at inner apex, basal joint of hind tarsi somewhat shorter than second. Length, 11 mm.

Hab.—Western Australia: Kuminin (E. F. du Boulay). Type (unique), I. 7837.

In Blackburn's table would be associated with *germari* and *capillatus*, from the former distinguished by the tridentate clypeus ⁽¹⁷⁾, and the abdomen entirely red (including the hind parts); from the latter it is distinguished by its larger size, paler abdomen, and different clypeus. The elytra are terminated by a comparatively wide membranous fringe.

LIPARETRUS LEPIDOPYGUS, n. sp.

Pl. xxxvii., fig. 119.

Black; elytra (part of base infuscated or black), parts of legs, antennae (club excepted), and palpi reddish-castaneous. Clothed with long whitish hair, but most of disc of prothorax and elytra (except at base and margins) glabrous, abdomen with rather dense depressed whitish hairs or setae; hind parts with white scales, closely applied to derm; and with numerous long, white hairs.

Head with coarse, crowded, and confluent punctures, becoming much sparser on front and sides of clypeus; sides rather strongly elevated and obliquely decreasing to apex, apex also strongly elevated and feebly emarginate. Antennae nine-jointed. *Prothorax* with sides rather strongly produced, hind angles widely rounded off, front ones produced and acute,

(17) As viewed from behind, it is not strongly tridentate, as in Macleay's Sec. 1, Subsec. 2, but belongs to Subsec. 1.

with a conspicuous but rather shallow median line becoming deeper at base; with punctures of moderate size, and rather sparse about middle, but more numerous towards sides. *Elytra* rather more dilated posteriorly than usual; punctures of moderate size and comparatively sparse; geminate-striae well-defined. Front *tibiae* strongly tridentate; basal joint of hind tarsi much shorter than second. Length, 6-8 mm.

Hab.—Western Australia: Lake Austin (H. W. Brown). Type, I. 7841.

The pronotum is conspicuously frilled on all its margins, and on some specimens there are a few long hairs on the middle of the disc; as the basal joint of the hind tarsi is distinctly shorter than the second, the species should evidently be referred to Group 2, but its small size and conspicuously squamose hind parts cause it to look very out of place there; if not to Group 2, it might be referred to Group 3, and there associated with *angulatus*, which has the clypeus of the male much more angular, hind parts not squamose, etc. The punctures of the hind parts are normally mostly concealed, but appear to be fairly numerous; parts of the upper-surface are rather brightly iridescent. The female is larger than the male, with margins of clypeus less elevated, front more rounded, and legs somewhat shorter. On all the specimens (eight) before me the elytra are without a membranous fringe.

LIPARETRUS TRICHOSTERNUS, n. sp.

Pl. xxxvii., fig. 120.

♂. Black; elytra (base infuscated) and antennae (club black) of a more or less dingy-castaneous. Clothed with long, whitish hair (but becoming dark on pronotum), part of pronotum and elytra (except at base and sides) glabrous, hind parts (in addition to the long hair) with rather dense, depressed, white scales.

Head with crowded and confluent punctures, becoming somewhat larger and much sparser on clypeus; the latter with strongly elevated sides and front, sides oblique and curved, front distinctly emarginate, antennae nine-jointed. *Prothorax* with sides rather strongly rounded, hind angles widely rounded off, front ones produced and acute, median line rather shallow but distinct at base; punctures of uneven sizes and unevenly distributed. *Elytra* with fairly large punctures about base, becoming much smaller posteriorly; geminate-striae distinct. Front *tibiae* tridentate; basal joint of hind tarsi shorter than second. Length, $6\frac{1}{4}$ - $6\frac{1}{2}$ mm.

♀. Differs in having wider elytra, clypeus with less elevated sides and front, the latter not emarginate and legs shorter, with front tibiae more acutely tridentate.

Hab.—Western Australia: Beverley (E. F. du Boulay). Type, I. 7845.

The elytra have some long hairs about the base, but as these are very few in number the species should be referred to Group 2, from all the tabled species of which (as also from all those tabled of Group 1) it is readily distinguished by its squamose hind parts, from the preceding species it is distinguished by the much more acutely angled clypeus of the male, and by the non-iridescent elytra. The clothing of the hind parts conceals most of the punctures, it is denser (and almost white) on the sterna than elsewhere; the elytra of the three specimens before me are without membranous fringe. On the female the teeth of the front tibiae are all strong and acute, but on the male the hind one is rather obtuse.

Group 4.

LIPARETRUS COMPOSITUS, n. sp.

Pl. xxxvii., fig. 121.

Reddish-castaneous, parts of sterna somewhat darker; head black, prothorax in parts more or less deeply infuscated. Under-surface and legs with long whitish hair, but clothing of upper-surface confined to clypeus and to lateral margins of pronotum, hind parts sparsely clothed.

Head with crowded but not confluent punctures, becoming sparser and larger on clypeus, but a narrow space immediately behind the clypeal suture shining and impunctate; clypeus with sides and apex strongly elevated, the former subparallel near base, and then strongly narrowed to apex, which is truncate. Antennae nine-jointed. *Prothorax* with hind angles widely rounded off, front ones produced and acute, median line very feeble; sides and apex with dense and rather small punctures, becoming somewhat larger and sparser in middle. *Elytra* with fairly large punctures, becoming smaller at sides and posteriorly; geminate-striae well-defined. *Hind parts* with moderately small punctures, somewhat denser on pygidium than on propygidium. *Front tibiae* strongly tridentate; basal joint of hind tarsi slightly shorter than second. Length, 11-12 mm.

Hab.—Western Australia: Ankertell and Cue (H. W. Brown). Type, I. 7839.

Belongs to FF of Group 4. Looking at the pronotum from in front the lateral, but not the front margins of the type, are seen to be fringed, but on the specimen from Cue there are a few hairs in front (but the species agree in but few details with *picipennis*), disregarding the few hairs of the latter specimen the species would be referred to HH, and

as the punctures of its hind parts are more distinct than on *rufipennis*, it would be referred to II, all the species of which are much smaller and otherwise different. In general appearance it appears to be allied to *germari* and *mastersi*. The type at first glance appears to have the pronotum black or almost so, but under a lens it is seen to be obscurely diluted with red; the specimen from Cue has most of the pronotum no darker than the elytra, but its apex, sides, and base (the latter very narrowly) are deeply infuscated, the antennae and palpi are entirely pale (almost flavous). The elytra are terminated by a very short membranous fringe (much shorter—less than half its length—than on the following species), but the membranous fringe at the apex of the prothorax is unusually long.

LIPARETRUS APICALIS, n. sp.

Pl. xxxvii., fig. 122.

Black; elytra, abdomen, and appendages (club partly black and outer parts of front tibiae blackish) reddish-castaneous. Under-surface and legs with long and somewhat golden or reddish hair, similar hairs margining sides of pronotum, and fairly numerous about the front angles (rest of upper-surface glabrous), hind parts with rather sparse hairs, but in addition with numerous short erect setae.

Head with rather small and crowded but not confluent punctures, a shallow depression in middle just behind clypeal suture; clypeus with sparser and somewhat larger punctures in front and on sides than between eyes, sides and front moderately elevated. Antennae nine-jointed. *Prothorax* with hind angles widely rounded off, the front ones produced and acute; with fairly numerous and rather small punctures, becoming crowded on sides; median line absent, except for a feeble basal impression. *Elytra* with moderately large punctures, becoming smaller posteriorly; geminate-striae well-defined. *Hind parts* with rather numerous punctures, larger on pygidium than on propygidium. *Front tibiae* strongly tridentate; hind tarsi with basal joint shorter than second. Length, 10-12 mm.

Hab.—Western Australia: Cunderdin (Western Australian Museum, Nos. 6652 and 6844). Type, I. 7838.

Of the two specimens before me there are only three basal joints remaining of one hind tarsus, and of these the first is slightly shorter than the second; regarding it as shorter, the species would belong to Group 4; the clypeus is very feebly tridentate in front (much less than in *distans*, from which the species differs also in many other respects); passing that species in the table it would be associated with *picipennis*, which is

a considerably smaller and otherwise different species. If not to Group 4, it could only be referred to Group 7, and there associated with *sericeus*, with which it has very few points in common. In general appearance it is close to *germari*, *mastersi*, and *semicastaneus*, but is abundantly distinct by the clothing of the pronotum. From the preceding species it is readily distinguished by the clypeus, and by the absence of a shining impunctate space behind the clypeal suture. The sides of the clypeus evenly diminish to the apex, which is almost truncate, on one specimen it is feebly but distinctly produced in the middle (very feebly tridentate), on the other from some directions it is scarcely perceptibly produced in the middle, from most directions appearing gently rounded or truncate. The setae on the hind parts are distinct only from the sides, and they are denser on the propygidium than on the pygidium. The elytra are tipped by a conspicuous corrugated membranous fringe.

LIPARETRUS LACINIATUS, n. sp.

Pl. xxxvii., fig. 123.

♂. Black; elytra, hind parts, and appendages more or less reddish-castaneous. Under-surface, hind-parts, front of clypeus, and lateral margins of pronotum with long stramineous hair, elytra with a conspicuous fringe of long reddish bristles.

Head with rather small and crowded, but not confluent punctures, becoming sparser and larger on front of clypeus; clypeus with sides moderately diminishing to apex, front strongly reflexed and conspicuously emarginate. Antennae nine-jointed. *Prothorax* with hind angles widely rounded off, the front ones produced and acute; with fairly dense punctures of moderate size; with vague remnants of a median line. *Elytra* with moderately large and rather dense punctures, becoming smaller and denser on sides and posteriorly; geminate-striae moderately distinct. Front tibiae strongly tridentate; basal joint of hind tarsi almost as long as second. Length, 10-10½ mm.

♀. Differs in having the clypeus smaller, much less acutely angled, and less emarginate in front, legs shorter, and front tarsi thinner.

Hab.—Queensland: Cairns (Blackburn's collection from — Taylor). Type, I. 7862.

The basal joint of the hind tarsi, when viewed from most directions, appears to be slightly shorter than the second, but when viewed so that the full length of each is visible, are seen to be of equal length, or almost so. In Group 4 it would be associated with *vicarius*, which is a much smaller species, with

very different clothing and clypeus; the clypeus is considerably (but not deeply as in *abnormalis*) emarginate in the male, and rather lightly incurved at the apex in the female, but regarding the species as belonging to EE, of Group 7, it could be referred to H, but to neither I nor II, as the clypeus is not at all tridentate. In general appearance, however, it appears to belong to Groups 1 or 2, but the prothorax entirely glabrous (except for the lateral margins) forbids its being referred to either. In Macleay's divisions it would readily fall into the first subsection of Section 1. The elytral fringe is of an unusual character, and apparently takes the place of the apical membrane of other species. Each of the long hairs of the hind parts arises from a puncture. On the type the hind femora are almost entirely black, a smaller proportion of the middle ones, and a still smaller proportion of the front ones are black, the hind parts are of a dingier red than the elytra. On the female the whole of the abdomen and femora are brightly reddish, the clypeus is diluted with red at the apex, and the prothorax is of the same shade of red as the elytra, except in front, where it is rather deeply infuscated; its scutellum also is red.

LIPARETRUS OBSCURIOR, n. sp.

Pl. xxxvii., fig. 124.

Black; elytra blackish, slightly iridescent. Sterna with dense whitish hair, a fringe of somewhat similar hair on each side of pronotum, rest of upper-surface glabrous; abdomen with dense white adpressed pubescence, and each segment with a row of long hairs; hind parts with stouter setae (almost scales) than on rest of abdomen, but lower part of pygidium glabrous.

Head with small, non-confluent punctures, crowded on sides, but somewhat sparser in middle, and becoming sparser and slightly larger on clypeus; sides of clypeus moderately elevated and evenly decreasing in width to apex, which is more elevated and truncated, but with rounded sides. Antennae nine-jointed. *Prothorax* with sides strongly rounded, hind angles widely rounded off, front ones rather strongly produced and acute; median line feeble, and only distinct at base, with sharply defined but rather small punctures, crowded on sides, somewhat sparser in middle. *Elytra* with larger but sparser punctures than on pronotum; geminate-striae well-defined. *Hind parts* with crowded, partially-concealed punctures. *Front tibiae* strongly tridentate; basal joint of hind tarsi distinctly shorter than second. Length, 7-8 mm.

Hab.—Western Australia (E. F. du Boulay). Type, I. 7836).

In Blackburn's table would be associated with *ovatus*, from which it differs in having the elytra black or blackish, antennae darker (the first six joints are all darker than on *ovatus*, the club being black on both) and prothorax with sparser and slightly larger punctures; from a dark variety of *rubefactus* it differs in being considerably larger, punctures in general finer, and pygidium as well as propygidium densely clothed; in general appearance it is fairly close to dark specimens of *picipennis*, but the pronotum has lateral hairs only, and there are other differences. The legs (except for the teeth of the front tibiae) are almost entirely black. One specimen has the four basal segments of abdomen rather densely clothed in middle, and is probably a male, the other has the abdomen glabrous along the middle, and is probably a female, but the clypeus and legs are practically identical. The elytra are without an apical membrane.

Group 7.

LIPARETRUS CARUS, n. sp.

Pl. xxxvii., fig. 125.

♂. Black; elytra (except for a narrow portion of the base, and for a slight infuscation of the suture and apex), legs (except most of femora), antennae (except club), and palpi reddish-castaneous. Under-surface and legs with long pale hair, a fringe of pale hair (becoming darker in front) on each side of pronotum, rest of upper-surface and hind parts glabrous.

Head with rather small, crowded, and in places transversely confluent punctures, becoming sparser and slightly larger on clypeus; clypeus rather more concave than usual, sides moderately decreasing in width (with curved outlines) to apex, which is strongly raised, and conspicuously, but obtusely, tridentate. Antennae nine-jointed. *Prothorax* with sides widely rounded, hind angles widely rounded off, the front ones produced and acute, median line shallow but distinct on basal half; punctures rather small and not very dense. *Elytra* with rather small and not very dense punctures, but becoming more numerous and more or less confluent on apex and sides. *Hind parts* with rather dense punctures, on pygidium slightly larger than on propygidium or elytra. Front *tibiae* tridentate; two basal joints of hind tarsi subequal. Length, 9 mm.

Hab.—South Australia: Lucindale (B. A. Feuerheerdt). Type (unique), I. 7855.

The basal joint of the hind tarsi is scarcely perceptibly longer than the second joint (it is certainly not shorter), so the species should be referred to Group 7, and there associated with *iridipennis* (to which it is structurally very close), but it differs in being larger, elytra mostly red, and punctures of pronotum more distinct. On the type the clypeus from above appears to be obscurely and very narrowly margined with red, but from below and in a suitable light the margin appears to be of a conspicuous blood-red colour. Owing to its brilliant iridescence it is a particularly beautiful species, although the general colours are as in many other species. The type is without an elytral membrane.

Group 10.

LIPARETRUS MELALEUCAE, n. sp.

Pl. xxxvii., fig. 126.

Black; elytra of a dingy piceous-brown, legs partly paler; antennae (club partly infuscated) and palpi still paler. Sterna with moderately dense pale hair, abdomen with a row of long setae on each segment (usually interrupted in middle), head with sparse hairs, a fringe on each side of prothorax and extended on to sides of front margin, rest of upper-surface glabrous.

Head with crowded and small punctures, some of which are transversely confluent, with an irregular row of larger punctures between eyes; two feeble tubercles in middle; clypeus with somewhat larger and sparser punctures than on head, sides strongly diminishing in width to apex, which is strongly tridentate. Antennae nine-jointed. *Prothorax* with sides strongly rounded, hind angles widely rounded off, front ones produced and acute, median line shallow and confined to basal half; punctures rather small and not very dense. *Elytra* with sparse and rather small punctures; geminate-striae well-defined. *Hind parts* with punctures much as on pronotum. Front *tibiae* strongly tridentate; basal joint of hind tarsi distinctly longer than second. Length, $5\frac{1}{2}$ - $6\frac{1}{2}$ mm.

Hab.—South Australia: Murray River (F. R. Zietz), Mount Lofty (S. H. Curnow), Cook Plains, on flowers of *Melaleuca* (J. G. O. Tepper). Type, I. 480.

Belongs to CCC, of Blackburn's table; the prothorax is not conspicuously frilled all across the apex, but there are some conspicuous hairs towards the sides on some specimens, and across the middle there are a few depressed hairs; probably Blackburn would have referred it to his Group 10, and it would there be associated with *perkinsi*, from which it differs in being larger, elytra darker, clypeal projections less

acute, prothoracic punctures less sharply defined, etc. If not to Group 10, it could only be referred to Group 9, and with the only species (*rothei*) there noted, it has scarcely anything in common. In general appearance it is like some specimens of *picipennis*, which has very different clypeus, etc., and some of *gracilipes*, which has abdomen of male *bifasciulate*, etc. The male has the clypeus rather more acutely tridentate and the abdomen with more uniform clothing than on the female, but the external sexual differences are but slight. The upper-surface is feebly iridescent, and the hind parts are usually slightly pruinose, the elytra are usually a very dingy brown, becoming almost black at the base and suture, but on an occasional specimen they are paler (dingy castaneous-brown), the front legs are almost wholly castaneous, the whole of the abdomen is usually black, but is sometimes (occasionally only the hind parts) obscurely diluted with red; the propygidium has a few scattered hairs (but these are easily abraded), and there are usually a few at the tip of the pygidium. The clypeal suture is conspicuously bisinuate, and a very narrow space immediately behind it is shining and impunctate. The elytra are terminated by a narrow but conspicuous membrane, but on two (of the fourteen) specimens in the Museum only remnants of it are left.

LIPARETRUS NUDUS, n. sp.

Pl. xxxvii., fig. 127.

Black; elytra (base, suture, and margins infuscated) and appendages (femora mostly black and club infuscated) reddish-castaneous. Under-surface and legs rather sparsely clothed, hind parts and upper-surface glabrous, except for a feeble fringe on each side of pronotum.

Head with dense and small punctures, much the same on clypeus as between the eyes, but immediately behind the clypeal suture a fairly wide, shining, impunctate space; clypeus with margins rather lightly elevated, sides rather strongly rounded, apex moderately incurved to middle. Antennae nine-jointed. *Prothorax* with sides rather strongly produced; hind angles widely rounded off, feebly produced and almost rectangular, median line faint; punctures rather small, sharply defined and not very dense, smaller and more numerous on sides than on middle. Elytra short; with rather large but not very dense punctures, geminate-striae well-defined; with a short but conspicuous apical membrane. *Hind parts* with dense punctures, slightly larger than on pronotum. Front *tibiae* strongly tridentate; basal joint of hind tarsi conspicuously longer than second. Length, $6\frac{1}{4}$ mm.

Hab.—Western Australia: Beverley (E. F. du Boulay). Type (unique), I. 7849.

In Group 10 would be associated with *convexior* and *laeticulus*, from both of which it differs in being larger and very differently coloured; it is an unusually sparsely clothed species, but I do not think the type has been abraded, as the membranous elytral fringe is in perfect condition. The infuscation of the elytra is more pronounced at the base than elsewhere.

Group 11.

LIPARETRUS TRICHOPYGUS, n. sp.

Pl. xxxvii., fig. 128.

Black; parts of front legs obscurely reddish, antennae castaneous, club blackish. Densely clothed all over with long erect hair, mostly white or whitish, on under-surface, hind parts, and head; mostly black or blackish on pronotum and elytra.

Head with crowded punctures of moderate size, becoming sparser on front of clypeus; clypeus with rather strongly elevated margins, sides strongly rounded, apex truncate in middle. Antennae nine-jointed. *Prothorax* with strongly rounded sides, hind angles widely rounded off, front ones produced and acute, median line vague and traceable only at base; with rather large but not crowded punctures. *Elytra* with sparser and somewhat smaller punctures than on pronotum; geminate-striae ill-defined. *Hind parts* with dense but partially concealed punctures. *Front tibiae* strongly bidentate; basal joint of hind tarsi slightly longer than second. Length, 10-10 $\frac{1}{4}$ mm.

Hab.—Western Australia: Cunderdin (Western Australian Museum, No. 8228). Type, I. 7835.

The front tibiae have two strong teeth, but behind the second tooth of one specimen each of them has a very feeble projection. I think the tibiae should be regarded as bidentate only, and that the species should be referred to Group 11, and associated with *suavis*, but it is very different in general appearance to that species, and to all others of the group. But regarding the front tibiae as tridentate it would preferably be referred to Group 8, and associated with *ebeninus*, which is evidently a much smaller species, with very different clothing, etc.; if not to Group 8, it might be referred to F, of Group 5, but it differs very considerably from *vestitus* and *nigroumbratus* in clothing and punctures, black elytra, etc. The upper-surface has a bluish iridescence, this being very conspicuous on the elytra. The clothing of the hind parts is unusually dense, and consists of long erect hairs and long

depressed pubescence. The elytra, although in perfect condition on both specimens, are entirely without a membranous fringe. The clypeus when viewed from behind appears to be semicircular.

LIPARETRUS PUNCTICEPS, n. sp.

Pl. xxxvii., fig. 129.

Black; elytra (base, suture, and margins excepted), antennae (club excepted), and palpi bright flavo-castaneous, legs of a darker red. Clothed with long hair, mostly whitish, but becoming darker on pronotum, and darker and shorter on elytra.

Head with irregular punctures; clypeus with sides feebly diminishing in width to apex, which is very feebly tridentate. Antennae nine-jointed. *Prothorax* with strongly rounded sides, hind angles widely rounded off, front ones very feebly produced and obtuse, median line not traceable; punctures indistinct. *Elytra* with sparse and small punctures, mostly confined to the geminate-striae and these indistinct. *Hind parts* with small and inconspicuous punctures, but more distinct on apical part of pygidium (which is shining) than elsewhere; propygidium very large. Front *tibiae* tridentate, front tooth long but rather obtusely pointed, the other very ill-defined; basal joint of hind tarsi much longer than second. Length, $6\frac{3}{4}$ mm.

Hab.—South Australia: Mount Lofty (S. H. Curnow). Type (unique), I. 7852.

In general appearance close to *discipennis* and *canescens*, distinguished from the former by its tridentate clypeus, and from the latter by the conspicuously longer basal joint of hind tarsi. In Blackburn's table it would be associated with *albohirtus*, from which it differs in the clypeus, in the clothing of upper-surface partly black, hind parts black and elytra completely margined with black. The lateral and basal hairs of the pronotum are pale, those on the disc being conspicuously darker; on the elytra they are entirely dark, seen from above they appear to be sparsely and irregularly distributed on the elytra, but when viewed from in front or behind they are seen to be in almost regular rows. The head immediately behind the clypeal suture is shining and impunctate, then there is a space (about the length of the clypeus) where the punctures are crowded and of irregular sizes (mostly fairly large), behind which the surface is opaque and with sparse punctures; on the clypeus the punctures are fairly large. The elytra of the type are terminated by a very short membrane.

Group 12.

LIPARETRUS LISSAPTERUS, n. sp.

Black; elytra (base, suture, and margins narrowly infuscated), antennae, and palpi bright-castaneous, legs and abdomen of a darker red. Under-surface with long pale hair, mixed on the propygidium with depressed white scales and on the pygidium with depressed setae or sparse pubescence; head with short, dense, light-brown, erect setae or hairs between eyes, somewhat shorter and not so dense on clypeus; pronotum with numerous long, erect, dark hairs, becoming paler at the sides and base, in addition with numerous stout subdepressed whitish setae; elytra glabrous.

Head with small crowded punctures, in places becoming confluent; clypeus with larger punctures than between eyes, its suture deep and distinct, margins strongly raised and (except for a slight flattening in front) semicircular. Antennae nine-jointed. *Prothorax* with sides rather strongly produced, hind angles widely rounded off, the front ones subacute: median line distinct on basal half; punctures fairly dense, subasperate, and mostly of two sizes: small ones denser on the sides than elsewhere, and fairly large ones (about as large as those on clypeus) from each of which arises a long hair. *Elytra* with sparse and small shallow punctures; geminate-striae feebly defined. *Hind parts* with somewhat crowded punctures, much as on pronotum, but larger (although shallow) about apex of pygidium. Front *tibiae* strongly and acutely bidentate; basal joint of hind tarsi slightly longer than second. Length, 9 mm.

Hab.—South Australia: Murray River (F. R. Zietz). Type (unique), I. 7853.

In Blackburn's table would be referred to I of Group 12, but as there are numerous white hairs mixed with black ones on the pronotum, it could be referred to neither J nor JJ of that group. In size and general appearance it is close to *gravidus*, and it has the back parts similarly clothed, but the punctures and clothing of the pronotum are different, and the elytra are glabrous at the base. The elytra are without an apical membrane, and their punctures are unusually feeble. On the type the abdomen (including the hind parts) and hind coxae are of a dingy red; but it is probable that those parts are usually (or at least commonly) black; with the prothorax closely applied to the elytra it appears to have distinct hind angles, but from certain directions these are seen to be widely rounded off.

LIPARETRUS FLAVIPENNIS, n. sp.

Black; elytra, antennae, and palpi flavous, front legs and all the tarsi more or less reddish. Elytra glabrous, but elsewhere more or less densely clothed with long hair, dark on the pronotum (except on the sides) and head, mostly pale elsewhere; abdomen in addition with rather dense, whitish pubescence, becoming subsquamose on propygidium.

Head rather convex; with crowded subasperate punctures; clypeus with sides strongly and apex feebly rounded, punctures at base much as between eyes, but sparser in front. Antennae nine-jointed. *Prothorax* with sides distinctly produced, hind angles widely rounded off, front ones not acute, median line distinct only at base; with fairly dense, subasperate punctures, of small and moderate size. *Elytra* with sparse punctures of small or moderate size; geminate-striae distinct; without apical membrane. *Hind parts* with crowded puncture of sizes as on pronotum, but partially concealed. Front *tibiae* bidentate, the apical tooth long and acute, the other feeble; basal joint of hind tarsi longer than second. Length, $5\frac{1}{2}$ - $5\frac{3}{4}$ mm.

Hab.—South Australia: Lucindale (B. A. Feuerheerdt). Type, I. 7854.

In Blackburn's table of Group 12, the position of this species is somewhat doubtful, as whilst the basal joint of the hind tarsi is distinctly longer than the second, it is certainly not "very much" longer (the type of *sericeipennis* was described as having the first joint twice the length of the second); referring it to I, its position is again doubtful, as the clothing of the pronotum, whilst mostly dark, is mixed with white setae, disregarding the latter it would be associated with *occidentalis*, from which it differs in its clothing, in the much less conspicuously bicoloured elytra, and very different clypeus. At first glance it looks close to *ubiquitosus*, of Group 15, or like *luridipennis* on a reduced scale. The elytra are somewhat iridescent, with the base, suture, and sides feebly and narrowly infuscated; the club is sometimes lightly infuscated. On some specimens there are a few short pale setae on the pronotum, the scales and shorter clothing of the hind parts are usually conspicuous, but a slight amount of grease causes them almost to disappear; on an occasional specimen the abdomen is obscurely reddish. The sides of the clypeus are rather more strongly rounded on some specimens than on others, but I can find no other differences (on the nine specimens in the Museum) likely to be sexual.

LIPARETRUS BIMACULATUS, n. sp.

Pl. xxxvii., fig. 130.

Black, with a bright bluish iridescence; elytra with a large flavous spot on each side near base, front legs, antennae (part of club excepted), and palpi flavo-castaneous. Elytra and clypeus glabrous, but elsewhere with rather long white or whitish hair; abdomen in addition with white pubescence in transverse series.

Head with rather crowded, small, and moderately large punctures; clypeus highly polished and with sparse punctures, sides strongly rounded, apex very feebly incurved at middle. Antennae nine-jointed. *Prothorax* with strongly rounded sides, hind angles widely rounded off, the front ones feebly produced and subacute; with small and comparatively sparse punctures, and a few larger ones scattered about; median line absent. *Elytra* with sparse and rather small punctures; geminate-striae well-defined; without apical membrane. *Hind parts* with rather dense small punctures, and a few of larger size. Front *tibiae* strongly bidentate; first joint of hind tarsi just perceptibly longer than second. Length, $5\frac{1}{2}$ mm.

Hab.—Northern Territory: Darwin (W. K. Hunt). Type (unique), I. 7847.

In Blackburn's table would be associated with *discoidalis*, from which it differs in being brilliantly iridescent, prothorax with sparser clothing, punctures distinct and surface not opaque, pale portions of elytra considerably smaller in extent (each spot is close to the base and about the size of the head), and basal joint of hind tarsi shorter. The erect hairs on the disc of the pronotum are not dense, but are almost evenly distributed; on the propygidium there are three transverse series of white pubescence (in addition to the long hair), the first basal (this would probably be concealed on some specimens), the second median, and the third apical; at the tip of each elytron there are two long rigid white setae, and on the sides a few shorter ones.

LIPARETRUS LONGIDENS, n. sp.

Pl. xxxvii., fig. 131.

Black and flavo-castaneous. Elytra glabrous. elsewhere more or less densely clothed.

Head with crowded but sharply defined punctures in front, becoming sparser posteriorly; clypeus very short, with rather dense punctures, margins lightly elevated, sides very strongly narrowed to apex, which is truncated (but without lateral angles). Antennae nine-jointed. *Prothorax* with sides rather strongly produced, hind angles widely rounded off,

front ones lightly produced and acute; with fairly large but not dense punctures; median line absent. *Elytra* with fairly numerous punctures of moderate size, geminate-striae fairly distinct but irregular; terminated by an extremely short membrane. *Hind parts* with rather dense punctures of moderate size. *Front tibiae* with apical tooth only, this long and very acute; basal joint of hind tarsi slightly longer than second. Length, $4\frac{1}{2}$ mm.

Hab.—South Australia: Ooldea. Type (unique), I. 7831.

In Blackburn's table would be associated with *discoidalis*, which has much longer clothing, bicolourous elytra, etc., but as the basal joint of the hind tarsi, from some directions, appears to be distinctly longer than the second, it might be compared with *sericeipennis*, from the description of which it differs in many particulars, and notably in its unidentate front tibiae. The black parts are the head, prothorax, scutellum, sterna, base of abdomen, hind coxae, and club. The head of the type (except the clypeus) and hind parts have a curious muddy appearance, that may really be due to dirt, but it certainly does not appear to be in any way abraded. The elytra in some lights have a conspicuous pruinose gloss. The clothing on the under-surface is mostly of a snowy-whiteness, on the legs and upper parts it is more or less stramineous; on the pronotum the hair is not very long, and is almost evenly distributed (except in front, where there is a rather conspicuous fringe of longer hair); on the head (except at base), including the clypeus, it is dense and rather short, on the hind parts it consists of fine evenly distributed (but rather sparse) hair.

LIPARETRUS ALBOVILLOSUS, n. sp.

Pl. xxxvii., fig. 132.

♂. Black; some parts more or less reddish-castaneous. *Elytra* glabrous, elsewhere with more or less dense, long, erect, white or whitish hair.

Head with small, crowded punctures, with a few irregularly distributed larger ones; clypeus highly polished and with sparse punctures, margins rather strongly elevated, sides scarcely diminishing to apex, which is very feebly incurved to middle and with angles gently rounded off. *Antennae* nine-jointed. *Prothorax* with sides and base strongly rounded, hind angles widely rounded off, the front ones obtuse, median line very feeble or absent; with rather dense, small, and moderately large, irregularly mixed punctures. *Elytra* with rather dense punctures of

moderate size, becoming smaller at the sides and posteriorly; geminate-striae very distinct; without apical membrane. *Hind parts* with dense punctures, mostly small on propygidium, somewhat larger on pygidium. Front *tibiae* bidentate; basal joint of hind tarsi slightly longer than second. Length, 5-5½ mm.

♀. Differs in having the clypeus somewhat smaller, with its front edge not at all incurved, and abdomen larger and more convex.

Hab.—Queensland: South Johnstone River (H. W. Brown). Type I. 7861.

In Blackburn's table would be associated with *luridipennis*, which is a much larger species, with very different clothing of pygidium; from *occidentalis*, to which it is structurally fairly close, it differs in being smaller, in the darker disc of elytra, with much less sharply defined dark borders, stronger punctures, and in the more feeble dentition of the front tibiae, of these the front tooth is long and acute, but the other is very feeble (on one specimen the front tibiae could quite fairly be regarded as unidentate). The antennae are nine-jointed, but the fourth to sixth joints are small, and it is necessary to view them in a good position and a good light to see them clearly; the two basal joints of the hind tarsi are almost equal, certainly the first is not "notably shorter" as on *palmerstoni*. On two specimens the elytra are of a rather bright-castaneous, with the base suture and sides somewhat infuscated, the front legs, antennae (except most of the club), and palpi are also castaneous; on a third specimen the elytra are considerably darker and the infuscations also are darker (parts are quite black) and more extended; on a fourth specimen (the only female sent by Mr. Brown) the elytra are considerably less infuscated (the apex scarcely at all), and the pygidium and propygidium (except where covered by the elytra) are entirely flavo-castaneous. The clypeus is more sparsely clothed than the head between the eyes, and the hairs project backwards, the medio-basal lobe of the pronotum is also sparsely clothed; on the hind parts the hair is longer (but not so dense) than on the wider parts of the abdomen.

Group 13.

LIPARETRUS BASICOLLIS, n. sp.

Pl. xxxvii., fig. 133.

Black; elytra and legs of a dingy piceous-brown, antennae (club black) and palpi paler. Under-surface rather sparsely clothed, hind parts almost glabrous, upper-surface glabrous, except for a fringe on each side of pronotum.

Head with rather small and comparatively sparse punctures; clypeus more shining and with sparser punctures than between eyes, its base somewhat elevated in middle, its margins rather strongly raised and semicircular, except for a flattening in front. *Antennae* nine-jointed. *Prothorax* with evenly rounded sides, hind angles obtuse but not rounded off, front ones acute and rather lightly produced: punctures slightly sparser, but otherwise much as on head. *Elytra* with rather sparse but sharply defined punctures; geminate-striae conspicuous; with an extremely short apical membrane. *Hind parts* with punctures much as on pronotum. *Front tibiae* bidentate, the front tooth long and acute, the second obtuse; basal joint of hind tarsi slightly shorter than second. Length, 5-6 mm.

Hab.—Western Australia: Beverley (F. H. du Boulay). Type I. 7846.

In Blackburn's table would be associated with *rotundipennis*, from which it differs in being considerably narrower, sides of prothorax more evenly rounded and base different, clypeus different at base, etc. It is one of the few species of the genus whose hind angles of prothorax (although obtuse) are not completely rounded off; the pronotum is more convex than usual, and except for a slight flattening near the base, is without trace of a median line. When the full extent of the basal joint of the hind tarsi is clearly visible, it is seen to be almost exactly the length of the second (certainly not longer); the sixth joint of the antennae is very small, and so closely applied to the club that the antennae at first appear to be but eight-jointed. Of the five specimens taken by Mr. du Boulay three have the elytra distinctly paler than the prothorax, but the other two have very dark elytra (scarcely paler—to the naked eye—than the prothorax): one of the former has the abdomen of a dingy-brown, but on the others it is black or blackish: the tarsi are usually paler than the rest of the legs.

LIPARETRUS SEMIFLAVUS, n. sp.

Flavous; some parts black or infuscated. *Sterna* with moderately dense clothing, abdomen with a row of setae across each segment, upper-surface and hind-parts glabrous, except for a conspicuous fringe on each side of pronotum.

Head with small and dense but (except in front) not crowded punctures; clypeus with considerably larger punctures than between the eyes, margins rather strongly elevated, sides rounded and rather gently decreasing in width to apex, which is lightly incurved to middle. *Antennae* nine-jointed.

Prothorax with sides subacutely produced, hind angles widely rounded off, front angles lightly produced and almost rectangular, median line not traceable, a vague transverse impression at apical third (but not continuous across middle); punctures small and comparatively sparse. *Elytra* with rather small and sparse punctures; geminate-striae well-defined. *Propygidium* with punctures as on pronotum, but slightly larger on pygidium. Front *tibiae* bidentate, the front tooth long and acute, the other small but distinct; basal joint of hind tarsi slightly longer than second. Length, 7 mm.

Hab.—Western Australia: Beverley (E. F. du Boulay). Type (unique), I. 7843.

The black parts are the head (in front, however, it is obscurely diluted with red), sterna, and hind coxae; the pronotum and scutellum are rather deeply but somewhat irregularly infuscated, hence there is some doubt as to whether the species should be referred to F, or FF, of Group 13: regarding it as belonging to F, it would be associated with *pallidus*, which is a considerably narrower and otherwise different species; if referred to FF, it would be associated with *rotundipennis*, which is a shorter, wider, iridescent and differently coloured and clothed species. The elytra of the type are without a membranous fringe, but there is a slightly ragged appearance about their tips that may be the remnants of one.

LIPARETRUS FLAVUS, n. sp.

Pl. xxxvii., fig. 134.

Flavous; head and parts of legs flavo-castaneous. Under-surface moderately pilose; upper-surface glabrous except for a fringe on each side of pronotum (continued on to sides of elytra), and for a few depressed setae across its apex; hind parts with fairly numerous, but short and inconspicuous setae.

Head with small dense punctures, many of which are transversely confluent; clypeus very short, with larger and sparser punctures than between eyes, margins moderately elevated, sides oblique from base to apex, which is widely truncated but with angles rounded off. Antennae nine-jointed. *Prothorax* widely transverse, sides rounded near base, hind angles very obtuse, but not completely rounded off, front ones produced and rather acute, median line absent; punctures small and comparatively sparse. *Elytra* with rather small punctures; geminate-striae fairly distinct; without apical membrane. *Hind parts* shagreened and with small shallow punctures. Front *tibiae* strongly bidentate; two basal joints of hind tarsi equal or almost equal. Length, $5\frac{1}{2}$ -8 mm.

Hab.—South Australia: Murray River (F. R. Zietz), Mount Lofty (S. H. Curnow). Type, I. 7850.

In Blackburn's table would be associated with *pallidus*, to which in fact it is closely allied, but it differs in having elytra longer, with the geminate-striae less pronounced, prothorax with smaller punctures and without a median line; in general appearance it is strikingly close to *aridus* (of Group 4), but the front tibiae are bidentate instead of tridentate; at first glance it resembles many of the small pale species of *Heteronyx*. The upper-surface and hind parts have a more or less conspicuous pruinose gloss; the setae across the apex of the pronotum are fairly distinct on some specimens, but from others they appear to be absent, on many specimens the pronotum is of the same shade of colour as the head. I can find no conspicuous sexual differences, although Mr. Zietz took specimens in abundance.

LIPARETRUS UNIDENTATUS, n. sp.

Flavous; head (somewhat darker between eyes) and parts of legs flavo-castaneous. Sterna moderately pilose, abdomen with sparser and stiffer clothing, upper-surface glabrous except for a fringe on each side of pronotum, hind parts with short, erect, and moderately dense, but (except from the sides) inconspicuous setae.

Head with small dense punctures, becoming crowded in front, somewhat larger and sparser on clypeus; clypeus short, sides oblique, apex wide and truncated, but with angles rounded off. Antennae nine-jointed. *Prothorax* with moderately rounded sides, hind angles widely rounded off, the front ones produced and acute, median line lightly impressed; punctures rather small and dense on sides, becoming somewhat sparser in middle. *Elytra* with rather small and fairly numerous punctures; geminate-striae conspicuous; without apical membrane. *Hind parts* with rather dense and small subasperate punctures. Front *tibiae* with a strong apical tooth only; basal joint of hind tarsi distinctly longer than second. Length, $6\frac{1}{2}$ mm.

Hab.—Queensland: Hughendon (A. M. Lea). Type (unique), I. 7851.

In Blackburn's table would be associated with *modestus*, which is a much smaller, wider, and otherwise different species; disregarding the hind tarsi it would be associated with *brevipes* and *blanchardi*, also very much smaller and otherwise different species; in general appearance it is strikingly close to *aridus*, *pallidus*, and *flavus*, but is readily distinguished by the unidentate front tibiae. On the type there is a small

projection at the middle of the apex of the clypeus, it is quite conspicuous from the side, but does not interfere with the front outline as viewed from above.

Group 15.

LIPARETRUS IRREGULARIS, n. sp.

Black and reddish-castaneous: antennae and palpi flavous. Densely clothed with long whitish hair on under-surface (but somewhat shorter and sparser on abdomen, including hind parts, than on sterna), head sparsely clothed, pronotum with rather dark hair, forming a wide loose fringe across and near apex (but a few hairs on middle of disc), each side with a fringe but becoming pale towards base; elytra glabrous.

Head with crowded and small punctures, but with some larger ones in irregular transverse series; clypeus with less crowded punctures but somewhat larger than those between eyes, sides rounded, apex very feebly incurved to middle. Antennae eight-jointed. *Prothorax* less transverse than usual, sides and base rounded, hind angles widely rounded off, the front ones produced and acute, median line indistinct; punctures rather small and crowded on sides, but sparser elsewhere, and with some larger (but not very large) ones scattered about. *Elytra* with fairly numerous punctures of moderate size; geminate-striae conspicuous. *Hind parts* with dense, subasperate punctures. Front *tibiae* strongly but obtusely tridentate: two basal joints of hind tarsi subequal. Length, $6\frac{1}{4}$ mm.

Hab.—Queensland: Brisbane (A. M. Lea). Type (unique), I. 7863.

In Group 15 would be associated with *rubicundus*, from the description of which it differs in having the sterna and hind coxae black, the pronotum with some rather large punctures, the geminate-striae on the elytra conspicuous, and the hind parts with rather short and dense clothing; if the type is a male it is readily distinguished from the male of *ferrugineus* by the clypeus, if a female by the clothing of the pronotum, etc. With the full length of the two basal joints of hind tarsi clearly visible they are seen to be equal or almost so, but from most directions the first appears to be shorter than the second. The fifth joint of the antennae is very small, so that at first they appear to be but seven-jointed, but from some directions it is sufficiently distinct. The reddish parts are the pronotum (but all its margins are infuscated or black), elytra (the extreme base excepted), two apical segments of abdomen (but not the base of the propygidium),

and legs (except coxae, parts of femora, and parts of hind tibiae). The elytra of the type appear to be tipped by remnants of an extremely short membrane.

Group 16.

LIPARETRUS SEMIATRICEPS, n. sp.

Pl. xxxvii., fig. 135.

Flavous; head black between eyes, parts of sterna infuscated. Under-surface rather densely pilose, upper-surface glabrous except for a fringe of stout setae on each side of pronotum, for a few hairs on each side in front, and for a few marginal and apical setae on elytra, hind parts glabrous except for a few fringing hairs.

Head with crowded and small punctures, a few of which are transversely confluent, immediately behind clypeal suture a very narrow polished impunctate space; clypeus with sparser and somewhat larger punctures than between eyes, sides oblique (with somewhat sinuous outlines) to apex, which is strongly elevated and truncated. Antennae eight-jointed. *Prothorax* shagreened, sides rounded, hind angles rounded off, the front ones produced and acute, median line vaguely indicated; with small and fairly dense, but not crowded punctures. *Elytra* with fairly dense and rather small punctures; geminate-striae distinct; without apical membrane. *Hind parts* with dense and small subasperate punctures, and finely shagreened. Front *tibiae* tridentate; two basal joints of hind tarsi equal. Length, 9 mm.

Hab.—Australia (Blackburn's collection). Type (unique), I. 7859.

Belongs to FF, of Group 16, but (as pointed out under notes on *fallax*), I do not consider that G and GG (hind angles of pronotum defined or not) are warranted. On this species the hind angles are completely rounded off (as they are on most species of the genus), hence in that table it would be associated with *atriceps*, from which it differs in being more robust, and in the much denser and smaller punctures of the prothorax, elytra, and hind parts; the punctures are very much denser than on the type (and also on a co-type and many other specimens) of *fallax*, the clypeus is less narrowed to the apex, and its sides and apex are more strongly reflexed; from Macleay's description of *monticola* (tabled by Blackburn as having the punctures of the pronotum "quite sparse" in comparison with those of *fallax*) it differs in many particulars of colour and punctures. From certain directions the front margin of the clypeus appears to be widely truncated, with the lateral angles obtuse, but not rounded; from directly

above it appears to be feebly incurved to the middle, and from behind (seen just above the head) it is scarcely perceptibly trilobed. There was no locality label on the type, but it was probably from Queensland or the Northern Territory.

LIPARETRUS MIMICUS, n. sp.

Black; elytra, hind parts, and parts of legs dark piceous-brown, tarsi, front tibiae, antennae (club excepted) and palpi paler. Sterna with rather dense long pale hair, becoming sparser and more setose in character on abdomen; upper-surface and hind parts glabrous, except for a fringe of dark hair on each side of pronotum.

Head with small dense non-confluent punctures; clypeal suture unusually deep; clypeus short, with somewhat larger but not much sparser punctures than between eyes, sides strongly oblique and gently rounded, front truncated, with angles rounded off. Antennae eight-jointed. *Prothorax* with sides strongly rounded posteriorly; hind angles widely rounded off, the front ones produced and acute; median line vague; punctures rather small and sparse. *Elytra* with moderately large but not very dense punctures; geminate-striae well-defined. *Hind parts* with dense punctures, rather larger than on pronotum, the propygidium with a rather large but obtuse median tubercle. Front *tibiae* tridentate, but the tooth nearest the base very small (the others large); two basal joints of hind tarsi equal or subequal. Length, 6 mm.

Hab.—South Australia: Mount Lofty (S. H. Curnow). Type (unique), I. 7858.

The type does not fit well into any of Blackburn's divisions of Group 16, as its elytra, although dark, are not black, but regarding them as black it would be associated with *erythropygus*, from which it differs in many respects (size, colour, punctures, etc.). When the full length of the two basal joints of the hind tarsi is visible, the first is seen to be a trifle longer than the second (certainly not "much" longer)⁽¹⁸⁾, but from some directions it appears to be a trifle shorter; it is the only member of Group 16 (except *fallax*, which extends as far south as Oodnadatta) known from South Australia. In general appearance it is strikingly close to *rotundipennis* (of Group 13), to some of *gracilipes* (of Group 7), and to some of *picipennis* (of Group 4). I have satisfied myself by careful examination of the antennae from different positions and in good lights that they are but eight-jointed;

(18) Group 17, the group with the basal joint much longer than the second, consists of but one species (*criniger*), very unlike the present one.

the club is considerably darker than the rest of the antennae, but is far from being black; the upper-surface has a vague iridescence. The elytra of the type appear to have remnants of a very short membrane.

Group 17.

LIPARETRUS FLAVICORNIS, n. sp.

Black; elytra (base, suture, and margins excepted) and legs more or less castaneous, antennae and palpi flavous. Under-surface with dense pale hair, pronotum rather densely and almost uniformly clothed with brownish hair, becoming shorter, denser, and paler on head between eyes (clypeus glabrous), elytra with rather long sparse clothing at base and sides, becoming sparser and shorter towards middle, and absent posteriorly; hind parts with moderately dense, and mostly depressed, pale clothing.

Head with small dense subasperate punctures; clypeus short, with sparser punctures than between eyes, its suture marked by a conspicuous, transverse, subgranular elevation, sides rounded, front truncated, but angles widely rounded off. Antennae eight-jointed. *Prothorax* with sides strongly produced outwards, hind angles widely rounded off, the front ones subrectangular; median line vague; with fairly dense but rather small punctures. *Elytra* with not very dense and rather small punctures, becoming smaller on sides and posteriorly; geminate-striae scarcely traceable. *Hind parts* with dense, small, shallow punctures. Front *tibiae* strongly tridentate (the front tooth unusually thin and curved); basal joint of hind tarsi much longer than second. Length, 6 mm.

Hab.—South Australia: Ooldea. Type (unique), I. 7832.

Belongs to Group 17, hitherto consisting of but one known species (*criniger*), from which this species differs in being much smaller and differently clothed, sides of prothorax angularly produced, etc. As viewed from the side the base of the clypeus appears to be traversed by a prominent ridge; the elytra of the type are without an apical membrane.

LIPARETRUS NIGRICLAVUS, n. sp.

Black: elytra (base, suture, and margins narrowly infuscated), hind parts and legs (coxae and hind femora black) more or less reddish-castaneous, antennae (club black) and palpi flavous. Sterna moderately, abdomen (including hind parts) more sparsely clothed; upper-surface glabrous except for a fringe of dark hairs on each side, and one across apex of pronotum.

Head with crowded and small but seldom confluent punctures; with a lightly elevated, semidouble, transverse median ridge; clypeus with slightly larger and sparser punctures than between eyes, sides strongly decreasing to apex, which is truncate, but with angles widely rounded off. Antennae eight-jointed. *Prothorax* less transverse than usual, sides moderately rounded, hind angles obtuse but not completely rounded off, front ones produced and acute, median line vague; punctures small and sparse. *Elytra* with rather sparse punctures of moderate size; geminate-striae well defined. *Hind parts* with rather dense and small punctures, the propygidium with an obtuse median tubercle. Front *tibiae* strongly tridentate; basal joint of hind tarsi distinctly longer than second. Length, 7 mm.

Hab.—New South Wales (Blackburn's collection). Type (unique), I. 4580.

Belongs to Group 17; but the type is a specimen assumed by the late Rev. T. Blackburn to be *tuberculatus*, and placed by him in Group 19, on account of its antennae appearing to be seven-jointed. As a matter of fact it is neither *tuberculatus* nor a member of Group 19, its antennae being really eight-jointed. The left antenna has the joints of the club separated, and the fifth joint is so small and so closely applied to the base of the club that as a joint it appears to be non-existent, and in consequence that antenna appears to be seven-jointed; but on the right antenna the fifth joint is less closely applied to the club, and is seen to be acutely pointed on one side. The basal joint of the hind tarsi is very decidedly longer than the second, although less conspicuously so than on *criniger*, from which it differs in its opaque pronotum, and very different clothing. In general appearance it is close to many species, but by the use of Blackburn's table it may be readily separated from all others. The clothing of the abdomen consists of a row across each segment: at the side rather long pale depressed hairs, across the middle short stiff suberect setae; the elytra have fragments of a very short apical membrane.

Group 19.

LIPARETRUS PALLENS, n. sp.

Castaneo-flavous, head and legs with a redder tinge; antennae and palpi flavous. Under-surface moderately, the abdomen more sparsely, clothed; upper-surface glabrous except for a fringe on each side of pronotum, a few short depressed setae across its apex, and a few inconspicuous setae on clypeus; hind parts with short, sparse, and inconspicuous setae.

Head with small crowded punctures, somewhat sparser in middle than in front, clypeus short, with larger and much sparser punctures than between eyes, sides strongly rounded and rapidly decreasing to apex, which is very feebly incurved to middle, and with angles widely rounded off. Antennae seven-jointed. *Prothorax* with sides rather strongly rounded and produced outwards towards base, hind angles widely rounded off, the front ones produced and acute, median line briefly and vaguely indicated; surface shagreened, and with rather small and not crowded punctures. *Elytra* with punctures much as on pronotum; geminate-striae well-defined; with a conspicuous, finely corrugated apical membrane. *Hind parts* with small shallow punctures. Front *tibiae* strongly bidentate; basal joint of hind tarsi slightly longer than second. Length, 6-7 mm.

Hab.—Queensland: Cunnamulla (H. Hardcastle). Type, I. 7865.

Readily distinguished from all others of Group 19 by its bidentate front tibiae. In general appearance it is strikingly close to *pallidus* and *unidentatus* (of Group 13), but those species have nine-jointed antennae, whilst on the three specimens before me of the present species the antennae are easily seen to be but seven-jointed. The upper-surface has a slight pruinose gloss; the pronotum is very narrowly infuscated on all its margins, but the infuscation is invisible to the naked eye, the scutellum also has its margins very narrowly infuscated.

AUTOMOLUS.

I cannot quite follow Mr. Blackburn in his table of this genus (*ante*, 1906, pp. 279-281), as regards the clothing of the head and pronotum of the species of BBB being "at most fine adpressed sparse hairs"; on *granulatus* and *humilis* the hairs are dense and stout (more or less setose in character), but being adpressed they have a very different appearance to the erect hairs of the other groups; but this is liable to alteration by maltreatment, as has been already commented upon under *ordinatus*; two specimens of *valgoides* before me also have the clothing of the head and pronotum decumbent. Moreover the clothing of the pronotum quite commonly varies in colour, so that it is not advisable to place much reliance on this as a distinguishing feature.

AUTOMOLUS ALPICOLA, Blackb.

Many specimens from New South Wales agree perfectly (sex for sex) in structure with two co-types of this species, but have most of the clothing of the pronotum black; by the

table they would not be associated with *alpicola*, but with *bicolor*, from which they are structurally very different.

AUTOMOLUS DEPRESSUS, Blanch.

This species varies from a form having the clothing of the pronotum entirely pale to one in which it is entirely black.

AUTOMOLUS GRANULATUS, Blackb.

The enormous propygidium of this species, in comparison with the small pygidium, and the dark club readily distinguish this species from all others of the genus except *humilis* and *propygidialis*. The type and only specimen known to Blackburn was evidently a male; the female differs in being more or less castaneous (the head, scutellum, and pygidium excepted), and each elytron with a conspicuous postero-lateral glabrous space (much larger than on the female of *humilis*).

Hab.—South Australia: Wilmington, Karoonda to Peebinga; Western Australia: Beverley.

AUTOMOLUS BURMEISTERI, MacL.

In Blackburn's table of the species of *Automolus* this species (with others) is distinguished by "pilosity of pronotum dark at least in middle of disc." This is generally true of the males, but all of the numerous females before me have the pilosity entirely of a rusty red, and even on some males black hairs are not always present⁽¹⁹⁾, although generally conspicuous on the middle. The sexual brand on each elytron of the female is smaller than usual (about the length of the scutellum, but only about half its width).

AUTOMOLUS SEMITIFER, Blackb.

Of this species Blackburn had four females under examination, and of these there are now three before me, all of which have the club black. The co-types are slightly greasy, but specimens in better condition have a curious silken or pruinose gloss on the pygidium, propygidium, and abdomen, very conspicuous from some directions; in consequence the punctures, although shallow, appear considerably larger than they otherwise would, and the hairs with which they are supplied project in a curious way. The sexual brand on the co-types is continuous on each elytron, from the shoulder to the apex, but on some others it is interrupted in the middle, so that each appears to have two smaller ones, one on the

(19) It is difficult to distinguish such males from males of *depressus*, apart from the shorter pilosity of the pygidium and propygidium.

shoulder, the other near the apex ⁽²⁰⁾. The male differs in being smaller, abdomen considerably smaller, prothorax with black hairs much more conspicuous (on the female they are sometimes entirely pale), elytra without sexual brands, and tarsi somewhat longer.

AUTOMOLUS MELANCHOLICUS, n. sp.

Black; parts of tarsi somewhat reddish, antennae (club excepted), and palpi flavous. Densely clothed with long ashen-white hair, becoming darker on most of prothorax than elsewhere, elytra with short and rather dense suberect, dark pubescence, and with a few longer pale hairs.

Head densely granulate-punctate; clypeus with sides and apex incurved. Antennae apparently eight-, club three-jointed. *Prothorax* rather strongly convex; with punctures as on head. *Elytra* with suboblong, asperate punctures in irregular (semidouble) rows, alternate interstices somewhat elevated. *Hind parts* with dense and rather large but shallow punctures. *Front tibiae* with two strong apical teeth, and a small one near base, basal joint of hind tarsi very short. Length, 5-5½ mm.

Hab.—South Australia: Mount Lofty (S. H. Curnow). Type, I. 4587.

In Blackburn's table would be associated with *funereus* and *striatipennis*, from the former distinguished by its larger size and hind tarsi, etc., and from the description of the latter by the complete absence of abdominal scales. On *funereus* the second joint of the hind tarsi is scarcely more than twice the length of the first, and the length (excluding the claws) of the fifth; on the present species the second joint is about thrice the length of the first, and distinctly longer than the fifth. The elytra are obscurely diluted with red about the apex, they are without a conspicuous sexual brand on any of the four specimens before me, but on two of them the summit of the apical slope of each elytron has a shining interrupted space that may be remnants of brands; the elytra of these specimens, however, are quite as dark as those of the others, and I can find no other distinctions likely to be sexual.

AUTOMOLUS TRIDENTIFRONS, n. sp.

Pl. xxxvii., fig. 146.

Black; elytra bright-castaneous, but base and suture somewhat infuscated, antennae (club excepted), palpi, and

(20) One of these was standing with specimens of *depressus* in Blackburn's collection, but the punctures of the hind parts readily distinguish it from the females of that species, apart altogether from the sexual brands.

tarsi more or less reddish. Clothed with stout, white, depressed hair or setae, longer and denser on the under-surface than on the upper, where it is almost evenly distributed, except that on the elytra it has a subgeminat appearance, and that there are some longer fringing hairs; hind parts with dense subsquamose clothing.

Head coarsely granulate-punctate; sides of clypeus oblique, front acutely tridentate. Antennae apparently eight-, club three-jointed. *Prothorax* granulate-punctate, the punctures of moderate size and not very close together. *Elytra* with irregular rows of punctures, a small granule behind each; a transverse, shining, interrupted space across summit of apical slope. *Hind parts* with dense but more or less concealed punctures. Front *tibiae* with a strong and acute apical tooth, a smaller submedian one, and a very small one near base; basal joint of hind tarsi scarcely half the length of second. Length, $4\frac{1}{4}$ - $4\frac{1}{2}$ mm.

Hab.—Western Australia: Ankertell (H. W. Brown). Type, I. 4584.

A shining species that in Blackburn's table would be associated with *pygmaeus*, from which it differs in its conspicuously tridentate clypeus; *opaculus* has the clypeus tridentate, but less acutely than on the present species, its prothorax is very differently sculptured, clothing of hind parts sparser and considerably finer, and feminine brands much more conspicuous. The clothing of the hind parts is almost squamose in character, on the upper-surface the setae are thinner but still fairly stout. Of the four specimens before me three are apparently females, and of these two have a vague greenish gloss on the pronotum, the third has the elytra with the margins (as well as the base and suture) infuscated; the fourth specimen is apparently a male (in *Automolus* the female is the more distinctive sex of the species), and has the elytra and antennae entirely black, the upper-surface much less shining, with thinner and denser (although not longer) and mostly black or blackish clothing, the pygidium with finer clothing (scarcely even setae) and the clothing on the under-surface rather thinner and less dense.

AUTOMOLUS PROPYGIDIALIS, n. sp.

Pl. xxxvii., fig. 147.

Black; elytra, legs, antennae (club excepted), and palpi more or less castaneous, abdomen darker, with moderately long, pale, and rather dense clothing, shorter on hind parts, and darker on middle of pronotum than elsewhere.

Head with dense asperate punctures; clypeus with sides oblique and lightly incurved, apex truncate. Antennae

apparently eight-, club three-jointed. *Prothorax* with large, shallow, rugulose punctures, the interspaces with fine punctures. *Elytra* with irregular punctures, the interstices irregular and finely wrinkled. *Hind parts* with dense, subgranulate punctures; propygidium very large, the pygidium small. Front *tibiae* with a strong and acute apical tooth, a small one near apex and a very feeble one near base. Length, $4\frac{1}{4}$ mm.

Hab.—South Australia: Lucindale (B. A. Feuerheerdt). Type (unique), I. 7868.

Allied to *humilis*, with which it would be associated in Blackburn's table, but clothing of pronotum considerably denser and longer (although still depressed), the prothoracic punctures are rather larger and sparser (but considerably smaller than on *pygmaeus*, which also has a much smaller propygidium); the type is probably a female (its elytra are reddish), and if so a small shining space at the middle near the apex of each elytron is the sexual brand, which is very much smaller, and in a different position to the feminine brand of *humilis*; *granulatus* is a considerably larger species, with shorter clothing, the feminine brand very conspicuous, and the male with black elytra. The pronotum is not as dark as the head, but is darker than the abdomen, which to the naked eye appears almost black; only a small part of its clothing is darker than the rest, but it is probably variable.

AUTOMOLUS BRUNNEUS, n. sp.

Blackish-brown or dark brown; head (except in front) black; legs, antennae (club excepted), and palpi paler. Clothed with moderately dense pubescence.

Head with fairly large and deep but not crowded punctures; clypeus with oblique feebly incurved sides, apex widely truncated. Antennae apparently eight-, club three-jointed. *Prothorax* with rather dense, subasperate punctures. *Elytra* with irregular semidouble rows of not very large and somewhat asperate punctures; interstices nowhere conspicuously elevated. *Hind parts* with punctures much as on pronotum, rather larger on pygidium than on propygidium. Front *tibiae* strongly bidentate at apex, and with a small subbasal tooth; basal joint of hind tarsi much shorter than second. Length, $3\frac{1}{2}$ - $4\frac{1}{4}$ mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type, I. 7866.

The clothing of the head and prothorax is rather dense, but as it is not erect it seems better to refer the species to AA, BBB, than to AA, B, of Blackburn's table; but it does not fit well there, the prothoracic punctures are smaller and

denser than on *pygmaeus*, but rather larger than on the other species of BB (except *evanescens*); the propygidium is not enormous as on the species of DD, and the clypeus is sharply truncated in front, not rounded as on *evanescens*; or tridentate as on *opaculus*. All the species of AA, B, C, are considerably larger, except *funereus*, which is a deep black species with very different clothing, and *pictus*, from the description of which it differs in many particulars of colour and sculpture. The three specimens before me all differ slightly in colour, this in general being of a very dark-brown, with the abdomen (and elytra or not) obscurely paler; on the under-surface the clothing is mostly of a dingy-white; on the upper-surface of one specimen it is not much darker, but on the others it is considerably darker (almost black in parts), in general, however, it has an ashen appearance.

These specimens are presumably males (they certainly have no sexual brand on the elytra); two others are possibly females of the species, they have the elytra more coarsely sculptured, with the alternate interstices conspicuous, and with a small irregular shining space (presumably the sexual brand) near the apex of each, club of the antennae considerably smaller, abdomen rather more convex, pygidium larger and propygidium smaller, clothing stouter (this is notably the case on the hind parts), that on the elytra blackish (except at the base, suture, and apex), and that of the pronotum more conspicuously variegated, being pale except on a rather distinct medio-basal space, where it is almost black.

PSEUDORYCTES SEMICALVUS, n. sp.

Pl. xxxv., figs. 64, 65.

♂. Bright-castaneous, some of the projecting parts darker. Densely clothed with rusty-red hair, elytra and apical half of pygidium glabrous.

Head flattened and with small punctures between eyes; clypeus almost vertical, and with conspicuously elevated margins, especially in front; mentum narrow and conspicuous. Antennae ten-, club three-jointed, rami of club about as long as inner part of front tibiae. *Prothorax* with a somewhat flattened excavation for more than half its width, the excavation marked on each side by a strong pointed horn (curved inwards at its tip), the middle of the apex with another but smaller and more acute curved horn, produced over head; with dense, partially concealed punctures. Scutellum with similar punctures to pronotum. *Elytra* distinctly wider than prothorax, sutural and marginal striae well-defined, the others feeble; with irregular series of sparse and mostly small punctures. *Pygidium* with dense punctures

beneath hair, sparse ones elsewhere. Spurs to hind *tibiae* long, wide, unequal, and obtuse. Length 24-27 mm.

Hab.—South Australia: Ooldea. Type, I. 7823.

The simple medio-frontal prothoracic horn associates this species with *monstrosus*, but that species has the prothoracic cavity much less densely clothed (to the naked eye it appears glabrous) and the horns much longer, elytra darker, etc.; the clothing on the pronotum and scutellum is almost as dense as on the under-surface, it is even fairly dense on the back parts of the horns, but their front parts are glabrous. Six specimens were obtained at lights.

PSEUDORYCTES GRISEOPILOSUS, n. sp.

Pl. xxxv., fig. 57.

♂. Black; parts of legs somewhat paler, antennae castaneous. Densely clothed with greyish hair, but elytra and apical half of pygidium glabrous.

Head with fairly numerous punctures; clypeus almost vertical, semicircular, margins strongly elevated, especially the hind one; mentum moderately prominent. Antennae ten-, club three-jointed, its rami unusually large. *Prothorax* with a wide, deep, median excavation, bounded on each side and in front by a strong, curved, simple horn, the front one projecting over head; with numerous, rather small, partially concealed punctures. *Elytra* very little wider than widest part of prothorax, sutural and marginal striae deep, the others rather shallow but containing rows of rather large punctures, which become sparse or absent posteriorly. Spurs to hind *tibiae* moderately long, unequal, and rather sharply pointed. Length, 12 mm.

Hab.—South Australia: Wirrabara. Type (unique), I. 7821.

The mentum is more swollen than is usual in *Cavonus*, and less than in *Pseudoryctes*, and the club of the antennae is larger than usual in either genus (quite as large as on most species of *Corynophyllus*); but as the prothoracic cavity is filled with hair the species has been referred to *Pseudoryctes*.

PSEUDORYCTES NIGRIPENNIS, n. sp.

Pl. xxxv., figs. 70, 71.

♂. Bright-castaneous; elytra and part of head black. Rather densely clothed with reddish hair, but elytra and apical two-thirds of pygidium glabrous.

Head almost impunctate; clypeus almost vertical, semicircular and rather deeply concave; mentum prominent. Antennae ten-, club three-jointed; rami of club about as long as head is wide. *Prothorax* with a wide and deep median

excavation, on each side of which is a long, strong, suberect horn, front strongly produced into a bifid horn; punctures rather sparse and small. *Elytra* subquadrate, the width of base of prothorax; sutural and marginal striae well-defined, the others feeble but containing well-defined rows (subgeminately arranged) of rather small but deep punctures. *Pygidium* impunctate, except at base. Spurs to hind *tibiae* long, stout, unequal, and obtuse. Length, 13-16 mm.

Hab.—Southern Queensland (H. H. D. Griffith, from F. P. Dodd), Cunnamulla (H. Hardcastle). Type, I. 7830.

Allied to *tectus*, but much smaller and with black elytra. The clypeal cavity varies considerably in depth and the prothoracic horns in size; on the largest specimen each of the suberect horns if inclined inwards would touch the base of its fellow, and the frontal one is directed well over the head with each of its wings considerably wider than the clypeus; on the smallest specimen each suberect horn if inclined inwards would scarcely extend more than half-way to the base of its fellow, and the wings of the frontal horn are feeble, the distance between their tips being considerably less than the width of the clypeus. I have also seen a specimen, from the Alice River, in Mr. H. W. Brown's collection.

PSEUDORYCTES ATER, n. sp.

Pl. xxxv., figs. 55, 56.

♂. Deep black and shining. Lower-surface, legs, and most of pygidium with black hair, upper-surface glabrous.

Head with irregularly distributed punctures: clypeus vertical, almost transversely-elliptic, deeply concave; mentum prominent and rather thin. Antennae ten-, club three-jointed, the rami almost as long as the distance across the eyes. *Prothorax* with a deep excavation for more than half its width, each side of it marked by a long, strong, suberect horn, having a small projection at about its middle, front produced well over head and very widely bifurcated; excavation with short, transverse, subvermiculate excavations, elsewhere with irregularly distributed punctures. *Elytra* subquadrate, scarcely wider than prothorax; with almost regular rows of large punctures in deep striae, but becoming irregular posteriorly. *Pygidium* with irregular punctures, almost absent from a space near apex, but dense at base. Spurs to hind *tibiae* long, subparallel-sided, obtusely pointed and unequal. Length, 18-20 mm.

Hab.—South Australia: Ooldea. Type, I. 7822.

Apparently allied to *sulcatus*, but differs from the description of that species in being black, and with large sublateral prothoracic horns.

PSEUDORYCTES VALIDUS, n. sp.

Pl. xxxv., figs. 62, 63.

♂. Black; parts of under-surface and of legs castaneous. Upper-surface glabrous, lower-surface, legs, and upper parts of pygidium with dense, somewhat reddish hair.

Head almost impunctate, rather deeply concave between eyes; clypeus semicircular, deeply concave; mentum very prominent. *Antennae* ten-, club three-jointed. *Prothorax* very largely excavated, sides and apex armed; cavity transversely and obliquely strigose, elsewhere with sparse punctures. *Elytra* subquadrate; striation very feeble, with a distinct row of small punctures in sutural stria, but elsewhere almost or quite impunctate. *Pygidium* with punctures only about base. *Legs* very thick and strong; spurs of hind tibiae long, parallel-sided, obtusely pointed and unequal. Length, 18-24 mm.

Hab.—Queensland: Coen (J. A. Anderson). Type, I. 2278.

Belongs to the same section of the genus as *dispar*, *mullerianus*, and *turritus*, from the two latter distinguished by its entirely black upper-surface, and from the former by its compound medio-frontal horn of pronotum, smooth elytra, etc. The size and armature of the prothorax vary considerably on the three specimens before me; on the type its greatest width is considerably more than that of the elytra, but on the smallest specimen its width is equal to that of the elytra; the cavity is so large that, on the largest specimen, the distance between the tips of the lateral projections is equal to the width of the elytra; the lateral projections appear to be acutely elevated parts of the sides, from the base each curves forward till becoming vertical, at the middle of its front face there is a transverse cavity, emarginate in front; the median projection of the largest specimen overhangs and passes the head, with its tip notched so as to appear bifid from behind, and V or Y shaped from in front; on the smallest specimen it does not pass the head, and its point is almost simple.

PSEUDORYCTES SEMICRUDUS, n. sp.

Pl. xxxv., figs. 66, 67.

♂. Black; elytra bright-red, parts of under-surface and of legs reddish. Upper-surface glabrous, under-surface, legs, and upper parts of pygidium with dense, reddish hair.

Head with fairly numerous punctures, rather deeply concave between eyes; clypeus semicircular, deeply concave, and vertical; mentum very prominent. *Antennae* ten-, club three-jointed; rami almost as long as head is wide. *Prothorax*

with a wide and deep excavation, sides and apex armed; cavity transversely strigose, sides with scattered punctures. *Elytra* subquadrate, narrower than widest part of prothorax; sutural stria well-defined and with irregular punctures, elsewhere striation and punctures very feeble or absent. *Pygidium* with punctures only about base. *Legs* very powerful; spurs of hind tibiae very long, thin, acutely pointed, and subequal. Length, 17-20 mm.

Hab.—Northern Territory: Melville Island (W. D. Dodd). Type, I. 2279.

Readily distinguished from all previously described species by its striking colours, these being alike on six specimens taken by Mr. Dodd. Structurally it is allied to the preceding species, and the cavity of the prothorax is much the same, but the lateral projections are less exaggerated, and the depression on the front face of each is larger, the medio-apical projection extends well over the head, and its tip is conspicuously notched, so that from in front it appears like a V or U, directly from behind it appears acutely bifid; the transverse carina, marking the hind margin of the clypeus, is sometimes quite as strongly elevated as the front margin, but is sometimes less than half its height.

PSEUDORYCTES TRIFIDUS, Blackb.

Pl. xxxv., figs. 58-61.

Several males of this species were taken by Mr. H. Hardcastle at Cunnamulla (Queensland); of these a small one (fig. 61) differs from the normal form in having the frontal horn of the prothorax smaller and bifid. A female has the prothorax wide flattened and unarmed, the head with the clypeal cavity much smaller, and the club of the antennae only about half the size of that of the male.

PSEUDORYCTES MONSTROSUS, Blackb. (pl. xxxv., figs. 49, 50).

P. MULLERIANUS, White (pl. xxxv., fig. 51).

P. TURRITUS, MacL. (pl. xxxv., figs. 52-54).

P. DISPAR, Sharp (pl. xxxv., figs. 68, 69).

P. TECTUS, Blackb., Ooldea (pl. xxxv., figs. 47, 48).

Illustrations of these species are given for purposes of comparison.

The males of this fine genus (except *sulcatus*, unknown to me, but certainly allied to *ater*) may be tabulated as follows:—

A. Prothoracic cavity entirely glabrous.

a. *Elytra* coarsely sculptured *ater*

aa. *Elytra* finely sculptured.

b. *Elytra* bright red *semicrudus*

bb. *Elytra* black *validus*

- AA. Prothoracic cavity not entirely glabrous (usually densely clothed).
 B. Lateral projections of prothorax not simple.
 c. Apical projection of prothorax bifid ... *turritus*
 cc. Apical projection simple.
 d. Black *dispar*
 dd. Reddish *mullerianus*
 BB. Lateral projections of prothorax simple.
 C. Apical projection of prothorax simple.
 e. Elytra reddish *semicalvus*
 ee. Elytra black.
 f. Pronotum red and sparsely clothed ... *monstrosus*
 ff. Pronotum black and densely clothed *griseopilosus*
 CC. Apical projection of prothorax not simple.
 D. Apical projection trifid ⁽²¹⁾ *trifidus*
 DD. Apical projection bifid.
 E. Elytra black *nigripennis*
 EE. Elytra reddish *tectus*

CAVONUS ACUTIFRONS, n. sp.

Pl. xxxiv., fig. 29.

♂. Black and shining. Upper-surface glabrous; under-surface, legs, and upper part of pygidium with dense black hair.

Head transversely impressed and with numerous punctures between eyes; clypeus large semicircular, margins rather strongly elevated and undulating; mentum not very conspicuous. Antennae ten-, club three-jointed, seventh joint very thin, rami of club about as long as head is wide. *Prothorax* with a large and deep cavity bounded by a conspicuous horn on each side and in front, the cavity with transverse striae, elsewhere with punctures, becoming crowded in front. *Elytra* scarcely wider than prothorax, slightly longer than wide; with rows of large punctures in well-defined striae, the second and third rows on each elytron widely separated from about the base to near the middle. *Pygidium* with crowded punctures about base, smooth, and almost impunctate elsewhere. Spurs of hind *tibiae* stout and unequal. Length, 12 mm.

Hab.—South Australia: Ooldea. Type (unique), I. 7820.

The size of *parvus*, but excavation of prothorax larger and with a tubercle on each side of it, clothing of under-surface black, etc.; *armatus* has prothorax somewhat similarly armed, but the clothing of its under-surface is not black, and the elytral punctures and striae are very different; *sculpturatus* (also from Ooldea) was described as being considerably

(21) On a rare variety of *trifidus* the projection is bifid, but the species is otherwise abundantly distinct from *tectus* and *nigripennis*.

larger, and with different clothing on the under-surface. *Neocavonus niger* and *Phylliocephala nigrohirta* have somewhat similar clothing, but are structurally very different. The prothoracic cavity occupies fully half of the disc, the tubercle on each side of it is fairly large and acute, and projects slightly backwards, the apical tubercle is somewhat larger, more acute, curved, and projects well over the head.

CAVONUS PARVUS, Blackb.

Pl. xxxiv., figs. 30, 31.

This species varies considerably in size, the largest male in the Museum is 21 mm. in length; two specimens of the species were taken from nests of a soldier-ant (*Myrmecia*) at Port Lincoln.

CAVONUS ARMATUS, Sharp.

Pl. xxxiv., figs. 27, 28.

Males and females of this species in the Museum, both vary in length from 14 to 22 mm.

ANEURYSTYPUS PACHYPUS, n. sp.

♂. Bright-castaneous; head somewhat darker and opaque. Under-surface, legs, and pygidium with dense, rusty-red hair; upper-surface glabrous, except for some long hairs in gutters of pronotum.

Head with coarse, crowded punctures between eyes, becoming smaller and less crowded towards base, and absent from a small medio-basal, polished space; clypeus with sides and apex strongly rounded and elevated, suture well defined, punctures at base as behind the suture, but becoming much smaller in front. Antennae ten-, club three-jointed, rami rather narrow, but slightly longer than head is wide. *Prothorax* scarcely twice as wide as long, evenly convex, not excavated or tuberculate in front, sides strongly rounded, angles rounded off; with fairly numerous distinct but not very large punctures becoming somewhat larger and more numerous on sides. *Elytra* slightly wider than prothorax; with somewhat irregular rows of distinct (but usually not very large) punctures, usually in striae, these in places having a tendency to become geminate, punctures about apex crowded and irregular. *Pygidium* with crowded but partially concealed punctures. *Hind tibiae* very short and strongly dilated to apex, spurs stout and very unequal; claws long and thin. Length, 11-13 mm.

Hab.—South Australia: Ooldea. Type, I. 7827.

The unarmed prothorax and small size associate this species with *laetus*, from the description of which it differs very considerably in the punctures of its head and pygidium, and

in the clothing of its pronotum; the mentum is intermediate in prominence between that of *dives* and *aurilegulus*. The antennae are of normal form for the genus, but the hind tibiae are unusually short and wide. The clothing of the lateral gutters of the pronotum is as in Blackburn's Group 2, of *Haplonycha* (*ante*, 1906, p. 292), whilst the apical joint of the maxillary palpi is as in his Group 3; in fact there is quite a strong resemblance of this species to *H. mauricei*, originally described from Ooldea; the resemblance, of course, is only superficial, as the antennae, mouth parts, and legs, etc., are all very different.

ANEURYSTYPUS PILOSICOLLIS, n. sp.

♂. Bright-castaneous, some parts darker. Under-surface, legs, and pygidium with dense, long, stramineous hair, elytra (except for the marginal fringes and for a few hairs at base) glabrous, rest of upper-surface moderately clothed.

Head coarsely and irregularly sculptured between eyes, but becoming smooth towards base; clypeus with front and sides rounded and strongly elevated, the latter abruptly truncated at base, suture deep, punctures rather small and irregular. Antennae ten-, club three-jointed, rami rather thin but as long as head is wide. *Prothorax* more than twice as wide as long, sides rather strongly rounded, angles rounded off, front neither excavated nor tuberculate; punctures moderately large and unevenly distributed. *Elytra* slightly wider than prothorax; punctures and striae much as on preceding species. *Pygidium* and *legs* much as on that species. Length, 9-10 mm.

Hab.—South Australia: Ooldea. Type, I. 7828.

The clothed and unarmed pronotum, densely clothed pygidium, and very short hind tibiae, readily distinguish this from all previously described species, except the preceding, from which it differs in being smaller, sculpture of the head more irregular, mentum much more prominent, prothorax with coarser punctures and its clothing not confined to the gutters, but scattered about on the disc as well; the mentum is very prominent, in this respect being second only to that of *paurillus*. The three specimens before me all have the basal half of the head almost black, and they all have the suture and outer apical parts of the elytra infuscated; two have the scutellum darker than the adjacent parts of elytra, and one of these has the prothorax rather deeply infuscated. On the head between the eyes the clothing is shorter and sparser than on the pronotum.

ANEURYSTYPUS INERMICOLLIS, n. sp.

♂. Bright-castaneous. Under-surface and legs with dense, rusty-red hair; upper-surface glabrous; pygidium sparsely clothed on upper-sides, elsewhere glabrous.

Head with irregular punctures between eyes; clypeus rather elongate, apex and sides strongly elevated, the latter deflected outwards at base to touch the ocular canthi, basal carina well elevated and somewhat sinuous, punctures rather small and fairly numerous. Antennae ten-, club three-jointed, seventh joint very thin, rami much larger than usual in the genus. *Prothorax* not twice as wide as long, sides strongly rounded, front angles produced, the hind ones rounded off, front neither excavated nor tuberculate; punctures sparse and minute, but becoming somewhat larger towards base. *Elytra* slightly wider than prothorax; sutural and lateral striae distinct but somewhat irregular, the others very feeble, punctures moderately large but irregular, rather sparse except on apical slope. *Pygidium* with crowded and irregular punctures about base, sparse and small elsewhere. Hind *tibiae* moderately long, spurs long and unequal: claws long, thin, and equal. Length, 15 mm.

Hab.—South Australia: Denial Bay (Dr. C. T. Abbott). Type (unique), I. 7826.

The only previously described species (except the two preceding ones) whose male has the prothorax unarmed is *laevis*,⁽²²⁾ from the description of which the present species differs in being larger, in having the punctures of the clypeus smaller than in *pauillus* instead of larger, and in other details of punctures. The club of the antennae is considerably larger than in other species of the genus and approaches that of *Corynophyllus*, but the mentum is more prominent than on that genus. In *Aneurystypus* the mentum varies considerably, being very prominent in *pauillus*, not quite so prominent in *richardsae*, still less prominent in *calvus* and *aurilegulus*, and slightly less so in *dives*, on which species it is much as on the present one. The punctures between the eyes are not very dense, close to the eyes they are small, simple, and fairly numerous, but in the middle they are smaller, and often two or three are transversely conjoined to appear like short striae. On close examination much of the surface of the prothorax and elytra is seen to be very finely shagreened. On the type the side of each elytron near the base has a small and peculiar notch, but this may be individual rather than specific.

(22) Excluding *collaris*, which has been transferred to *Sauiostomus*, of the *Rutelides*, on account of its uneven claws. I am very dubious if the transfer was justified, despite the claws.

CHEIROPLATYS EXCAVATUS, n. sp.

Pl. xxxiv., figs. 37-39.

♂. Black and highly polished, under-surface obscurely diluted with red. Upper-surface and pygidium glabrous, under-surface with long, reddish-brown bristles.

Head with close reticulate sculpture, becoming transverse on clypeus; clypeus with sides strongly, obliquely narrowed from base to apex, which is narrow and truncate, with a narrow gutter along apex and sides. Antennae ten-, club three-jointed, seventh joint very thin; rami of club about the length of clypeus. *Prothorax* scarcely one-fourth wider than long, sides strongly rounded, apex not half the width of base, front angles produced, hind ones rounded off, disc very largely excavated, middle of apex tuberculate; excavation with narrow sinuous markings, sides at apex densely punctate, elsewhere with sparse and small punctures. *Elytra* the width of prothorax; smooth and impunctate or almost so, sutural and lateral striae narrow and well-defined, the others absent or very feeble. *Pygidium* very finely shagreened, with dense punctures on upper sides, and a transverse connecting row. *Abdomen* with apical segment depressed and punctate towards base, near apex with a transverse row of bristles (and a similar row on pygidium), a narrow deep impression behind each row. Front *tibiae* strongly and very obtusely tridentate; four hind tarsi with basal joint strongly dilated externally. Length (♂, ♀), 23-26 mm.

♀. Differs in having the prothorax but feebly depressed in front, the tubercle scarcely defined, and the punctures simple and more crowded in front.

Hab.—Queensland: South Johnstone River (H. W. Brown), Cairns district (A. M. Lea). Type, I. 2329.

The non-tuberculate head and largely excavated prothorax of the male with a small tubercle in front, are as in *Cheiroplatys* and *Isodon*; but the smooth elytra and general appearance are suggestive of *Pseudopimelopus*, but as the characters of the head and abdomen, with the teeth of the front tibiae strongly rounded, are as in *Cheiroplatys*, I have referred the species to that genus. The clypeus is traversed by numerous short costae, many of which are conjoined to become longer sinuous ones, but behind the suture the transverse arrangement is less evident. The middle joint of the club appears to be double at its apex (causing the club to appear to be four-jointed there), but its middle and base are simple. The prothoracic excavation occupies about half its disc, in front it is flattened out, at its sides and base (which are somewhat sinuous) its walls are almost vertical, its base is slightly more distant from the base of the segment than the

length of the scutellum; its finer sculpture on some specimens resembles fine layers of plates, but on others the laminate arrangement is scarcely evident; the medio-apical tubercle on three males is single, on three other males double, the two nodes placed longitudinally, the hind one upright, the front one overhanging the head. On one male the prothoracic excavation is much smaller and shallower than usual, and only occupies about three-fifths the length of the segment, its apical tubercle is very small and there are some fairly distinct punctures on the elytra, with the striation (although feeble) more evident and distinctly geminate towards the base.

CHEIROPLATYS CASTANEUS, n. sp.

Pl. xxxiv., fig. 36.

♂. Bright-castaneous and highly polished. Upper-surface and pygidium glabrous; under-surface and legs with numerous, but irregularly distributed, reddish bristles.

Head transversely rugose; clypeus with sides strongly obliquely decreasing in width to apex, which is rather narrow and finely serrated, its disc with numerous transverse costae; mentum rather prominent. Antennae ten-, club three-jointed, sixth and seventh joints very thin. *Prothorax* about once and one-half as wide as long, sides strongly rounded, front angles obtusely produced, the hind ones rounded off; disc with a large flat-bottomed excavation occupying about two-thirds the width and three-fifths the length of the segment, its front with an obtuse tubercle; with rather small and not very numerous punctures, becoming larger and crowded at apex. *Elytra* with sutural and lateral striae deep and well defined, the others rather feeble and geminate in arrangement, with series of rather small punctures in the striae, but becoming more numerous and irregular on apex and sides; wrinkled about shoulders. *Pygidium* with sharply defined and not very dense punctures, but becoming crowded at basal angles. Abdomen with apical segment sloping to base, and with numerous punctures there, a conspicuous row of setae near apex, and another at tip of pygidium. Front *tibiae* with three strongly rounded teeth, spurs to four hind ones wide and unequal; basal joint of four hind tarsi strongly dilated externally. Length, 17 mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type (unique), I. 2308.

About the size of *juvencus*, but more brightly coloured, excavation wider and flat-bottomed, punctures much smaller and sparser, elytral sculpture much finer and clypeus different at apex; the serrations there are nine in number on the type,

but are probably variable. The punctures in the prothoracic excavation are sparse and simple.

NOVAPUS ARMATUS, n. sp.

Pl. xxxiv., figs. 45, 46.

♂. Dark reddish-brown; head and parts of legs black. Upper-surface glabrous, under-surface and legs with rather dense rusty-red hair, upper parts of pygidium with numerous, rather short, depressed setae, and a few hairs.

Head with coarse crowded punctures; with a strong suberect horn, slightly bifid at its tip. Antennae ten-, club three-jointed, seventh joint very thin. Prothorax about one-fourth wider than long, sides dilated from base to apical third, and then strongly incurved to apex, apex gently arched, with the front angles not separately produced, with a large (almost circular) discal cavity, transversely impressed in its front, with punctures at its back, elsewhere with sparse and rather small punctures, but becoming larger towards base and sides. *Elytra* with sutural and lateral striae well-defined, the former crenulate; with rows (mostly regular) of rather large punctures becoming smaller posteriorly, apex with numerous smaller punctures. *Pygidium* with numerous fairly large punctures, becoming crowded at base. Length, 21-21½ mm.

Hab.—Western Australia (— Jung), Swan River (Blackburn's collection). Type, I. 169.

A specimen of this species was labelled by Mr. Tepper as *Novapus armatus* (apparently a manuscript name of the late Rev. T. Blackburn). It appears to be allied to *rugicauda*, but differs from the description of that species in having the base of the pygidium with a fringe of hair, and most of its surface with rather large isolated punctures. The prothoracic excavation has outlines much as on *crassus*, but is shallower and differently sculptured. The cephalic horn from some directions appears to be truncate at its tip, but really feebly bifid.

NOVAPUS ADELDAE, Blackb.

Pl. xxxiv., figs. 42-44.

A female from Ooldea appears to belong to this species, but is rather larger than usual; the figures are of normal specimens.

CRYPTODUS GIGAS, n. sp.

Pl. xxxiv., fig. 40.

♂. Blackish; pygidium, parts of under-surface and of legs more or less obscurely reddish. Upper-surface glabrous and shining, under-surface sparsely and irregularly clothed.

Head with a conspicuous depression in middle and non-tuberculate; with dense but irregular semicircular punctures; clypeus moderately elevated and truncated in front; mentum large, gently depressed in middle, base obtusely notched for reception of front process of prosternum, with dense but irregular semi-circular punctures, an oblique row of long hairs on each side. Antennae ten-, club three-jointed, basal joint about twice as long as its apical width, its extended apex concealing some of the following joints. *Prothorax* about once and one-half as wide as long, sides strongly rounded, front angles produced, basal ones obtuse; with sharply defined but not very large or dense punctures, but becoming crowded in gutters; with a shallow and vaguely defined median line. *Elytra* with somewhat irregular rows of rather large, horse-shoe-shaped punctures, becoming crowded at apex, each (excluding the suture and margin) with four shining elevated lines, of which the outer one is rather feeble. *Pygidium* strongly convex; with crowded punctures except in middle. Front *tarsi* with very unequal claws, the inner one thick, with a large basal appendix, the outer one thin with an acute appendix. Length, 27 mm.

Hab.—New South Wales: Bellingen (W. du Boulay). Type (unique), I. 7819.

Considerably larger than any previously described species except *politus*, from the description and figure of which it differs in having the head depressed in middle and non-tuberculate. The mentum is conspicuously notched, but much less deeply than is usual in those having it notched.

CRYPTODUS BILOBUS, n. sp.

Pl. xxxiv., fig. 41.

Blackish-brown; head and parts of legs black. Upper-surface glabrous; under-surface sparsely and irregularly clothed.

Head with crowded and irregular punctures, a short transverse strongly elevated ridge with geminate tubercles between eyes; clypeus strongly bilobed owing to a deep apical notch; mentum with numerous rather large punctures, somewhat concave in front, obtusely notched at base, with a semicircular marginal row of stiff bristles. Antennae nine-, club three-jointed, apex of basal joint concealing some of the following ones. *Prothorax* about once and one-fourth as wide as long, widest at about apical third, then gently incurved posteriorly, then slightly dilated with the basal angles rounded off, front angles slightly produced, a slight concavity in middle of apex, with middle of margin slightly elevated (but not tuberculate); with numerous sharply-defined

and rather small punctures on disc (but almost absent along middle), becoming transverse and larger towards apex (where they are crowded and transversely or obliquely confluent), and more numerous on sides. *Elytra* with rather large shallow punctures, in more or less regular rows, but becoming denser and irregular on sides and apex, striae shallow. *Pygidium* with rather crowded punctures. Basal joint of four hind *tarsi* dilated externally, and with several deep notches. Length, 13-14 mm.

Hab.—Western Australia: Beverley (F. H. du Boulay). Type, I. 2262.

The strongly bilobed clypeus and conspicuous geminate tubercles of head readily distinguish this from all previously described species of the genus. The claws of the front tarsi are not distorted on any of the three specimens before me, but the curious notches on the tarsi are probably indicative that they are males.

C. CAVICEPS, Westw., Ooldea.

C. PASSALOIDES, Germ., Ooldea.

ISODON PECUARIUS, Reiche., Birkett's Woolshed, Carraweena, Farina, Hergott, Strzelecki Creek.

NEPHRODOPUS ENIGMUS, Sharp, var. NIGER, n. var.

Pl. xxxiv., figs. 32, 33.

Some males from the Alligator River (Northern Territory) agree so closely in sculpture with typical specimens of this species, that I cannot regard them as representing more than a variety; they differ, however, in having the upper parts entirely black, the pygidium and propygidium blackish, and a greater portion of the legs infuscated.

PSEUDOCAVONUS ANTENNALIS, Blackb.

Pl. xxxiv., figs. 34, 35.

Figured for comparison with species of the allied genera.

BUPRESTIDAE.

MERIMNA ATRATA, L. and G.

Numerous specimens of this species were seen on the hottest days, basking on the extremely hot brick walls of the baking ovens at Ooldea.

ANILARA PLATESSA, Thoms., Ooldea.

DIADOXUS SCALARIS, L. and G., Ooldea, Parachilna.

MELOBASIS CUPREOVITTATA, Saund., Parachilna.

M. NOBILITATA, Thoms., Orroroo.

M. SORDIDA, Blackb., Ooldea, Parachilna.

M. SPECIOSA, Blackb., Orroroo, Parachilna.

- STIGMODERA ATRICOLLIS, Saund., Cooper Creek.
 S. FORTNUMI, Hope, Leigh Creek.
 S. HEROS, Gehin., Ooldea.
 S. TIBIALIS, Waterh., Ooldea.

GERMARICA LILLIPUTANA, Thoms. (formerly *Aphanisticus*).

If the expression "*subtruncata et biacuta*" applied to the apex of the elytra of this species means that each elytron has two apical mucros, I do not know it; but a species that may be beaten from many kinds of *Casuarina* in Queensland (Dalby, Bluff, and Cairns), New South Wales (Sydney, Mittagong, and Whittton), Tasmania (Launceston, Hobart, Beaconsfield, and Swansea), and South Australia (Parachilna and Ooldea) seems to me (apart from the quoted expression) to agree with the description. The specimens of it have the sides of the elytra obliquely narrowed to the tips (on some appearing obliquely truncate) with each tip acute at the suture (this is especially noticeable when the elytra are separated). On some specimens the sides of the prothorax are more strongly rounded than on others (possibly a sexual difference) and Tasmanian ones are somewhat larger than those from the mainland (a common variation). They all have a metallic gloss, but this is but little in evidence on some specimens. The species is certainly not *casuarinae*, from some co-types of which it differs in being much smaller and less coarsely sculptured, with the elytra rather more acutely pointed (although the difference in the tips is not very striking).

ELATERIDAE.

- AGRYPNUS MASTERSI, Macl., Clayton Creek.
 CHROSTUS QUADRIFOVEATUS, Cand., Ooldea.
 LACON FARINENSIS, Blackb., Parachilna.
 MACROMALOCERA SINUATICOLLIS, Blackb., Ooldea (pl. xxxvi., figs. 72, 73).
 MONOCREPIDIUS COMMODUS, Blackb., Cooper Creek.

DASCILLIDAE.

- CYPHON LINDENSIS, Blackb., Orroroo.

MALACODERMIDAE.

- DASYTES FUSCIPENNIS, Hope, Ooldea.
 LAIUS EYRENSIS, Blackb., Parachilna.
 METRIORRHYNCHUS RUFIPENNIS, Fab., Farina, Parachilna

CLERIDAE.

NATALIS PORCATA, Fab., Ooldea.

NECROBIA RUFIPIES, DeG., Cooper and Leigh Creeks.

LEMIDIA VARIICOLLIS, Lea.

A specimen of this species was reared from an old gall (probably hymenopterous) on a mulga tree at Wookalla; it has the prothorax as described on a co-type of the species, but the vitta on each elytron is completely interrupted near the apex, thus leaving an isolated blackish spot; its femora and tibiae are entirely pale.

L. MERIDIONALIS, Lea, Parachilna.

BOSTRYCHIDAE.

BOSTRYCHOPSIS JESUITA, Fab., Carraweena, Clayton Creek, Kopperamanna, Ooldea, Parachilna.

TENEBRIONIDAE.

ALPHITOBIUS DIAPERINUS, Panz., Ooldea.

HOPATRUM COWARDENSE, Blackb., Cooper Creek.

H. LONGICORNE, Blackb., Wookalla.

TENEBRIO MOLITOR, Linn., Parachilna.

HYPAPULAX ORCUS, Pasc., Ooldea.

BRISES TRACHYNOTOIDES, Pasc., Winbring.

HELAEUS CONJUNCTUS, n. sp.

Pl. xxxvi., fig. 80.

Of a dingy reddish-brown, some parts paler, carinated parts of prothorax and of elytra shining black. Upper-surface moderately densely clothed with stout, stramineous setae, uniform and decumbent on pronotum, subseriately arranged and suberect on elytra.

Head widely concave in front, densely granulate behind eyes. *Prothorax* rather long ($13 \times 9\frac{1}{2}$ mm.), disc strongly convex, and crowned with a strong interrupted ridge; with numerous small setiferous granules; flanges wide, obliquely elevated, touching at their tips; with smaller and sparser granules than on disc, margins not upturned. *Scutellum* with an acute projection in front. *Elytra* no wider than widest part of prothorax, parallel-sided to near apex, surface shagreened and with small scattered punctures; each with a conspicuous carina from base, the two subparallel for about half their length, then converging to summit of apical slope, and then diverging till each joins in with a conspicuous row of shining black-tipped granules; suture flat throughout; flanges not very wide, widest at extreme base, nowhere as wide as the distance between the carinae, with minute

setiferous granules; reflexed margins almost vertical, longitudinally concave and finely wrinkled and granulate. Length, 25 mm.

Hab.—South Australia: Ooldea. Type (unique), I. 7964.

An elongate-elliptic species allied to *squamosus*, but discal carinae of elytra continued to join in with the sublateral rows of granules (as in *ellipticus* and *moniliferus*), median carina of pronotum different and the elytral margins stronger. In Carter's table ⁽²³⁾ it would be associated with *derbyensis*, from which it differs in having the prothorax narrower, its carina wider and practically touching apex (its base is curved, acute, and overhangs the scutellum), elytra more convex, more parallel-sided, with the flanges wider and their reflexed edges conspicuously wider.

HELAEUS WAITEI, n. sp.

Pl. xxxvi., figs. 76, 77.

Dull-black; flanges and parts of appendages more or less obscurely reddish-brown. Upper-surface opaque.

Head with small setiferous punctures. *Prothorax* twice as wide as long (23 x 11 mm.); disc irregularly depressed and with an acutely-conical, subbasal tubercle; punctures extremely minute; flanges very wide, at base very much wider than disc, feebly concave, sloping upwards, and with small but distinct setiferous punctures, tips widely crossed, reflexed margins almost vertical. *Elytra* slightly wider than long ($25\frac{1}{2}$ x $23\frac{1}{2}$ mm.), with numerous small punctures and scarcely visible granules, near flanges each with a very feeble and non-granulate elevation, suture narrowly carinated; flanges very wide, especially at base, with numerous small but fairly distinct granules, reflexed margins at base as on prothorax, but gradually decreasing till at the tips the flanges are simple. Length, 29-35 mm.

Hab.—South Australia: Ooldea. Winbring. Type, I. 7963.

Proportionately wider and with wider flanges than any other species of Group 1, known to me, the elytral granules (on the disc) are also extremely faint (not visible to the naked eye). In Blackburn's table (*ante*, 1899, p. 37), it would be associated with *ingens*, from which it differs in being considerably wider, with wider flanges (on this species each elytral flange at the extreme base is distinctly wider than the intervening space), and by the entire absence of granules from the vague elevation on each elytron just before the flange; on two co-types of *ingens* these granules, although

(23) Proc. Linn. Soc. N.S. Wales, 1910, p. 93.

small, are acute and quite distinct to the naked eye. On one specimen the base of the head (behind the eyes) is exposed, and is seen to be densely covered with minute granules. A specimen of this species was in the Blackburn collection as *ingens* (see the following note).

HELAEUS INGENS, Blackb.

This species was described as from the McDonnell Ranges, and there are two co-types in the Blackburn collection. In the original description the elytra were noted as "obsoletissime quadricostato (costa externa quam ceterae paulo fortiori et granulis conicis sat validis armata)." Subsequently, when dealing with the beetles of the Horn expedition, Blackburn identified three Tempe Downs specimens as belonging to *ingens*; two of these are presumably in the National (Melbourne) Museum, the third is before me and is not *ingens* (it is entirely without the sublateral row of granules on each elytron) but the species described above as *waiteri*.

H. ARIDUS, Blackb., Ooldea (pl. xxxvi., fig. 78).

H. FALCATUS, Pasc., Ooldea.

H. INTERIORIS, Macl., Museum Expedition (pl. xxxvi., fig. 79).

H. PRINCEPS, Hope, Wookalla.

PTEROHELAEUS BULLATUS, Pasc., Orroroo.

P. PICEUS, Kirby, Ooldea.

P. VICARIUS, Pasc., Knob, Lakes Crossing.

SARAGUS CONVEXIUSCULUS, Macl., Parachilna.

S. LAEVICOLLIS, Oliv., Orroroo.

S. PASCOEI, Macl., Ooldea (pl. xxxvi., fig. 74).

ONOSTERRHUS OOLDENSIS, Cart., Ooldea⁽²⁴⁾ (pl. xxxvi., fig. 75).

AMARYGMUS AEGER, Blackb., Ooldea.

CHALCOPHTERUS EREMITUS, Blackb., Parachilna.⁽²⁴⁾

C. EYRENSIS, Blackb., Parachilna.

C. FASTUOSUS, Germ., Parachilna.

C. FERVENS, Germ., Farina, Ooldea, Parachilna⁽²⁴⁾.

C. PALMERSTONI, Blackb., Ooldea⁽²⁴⁾.

C. POLYCHROMUS, Pasc., Parachilna⁽²⁴⁾.

C. PURPUREUS, Germ., Parachilna⁽²⁴⁾.

ADELIUM SIMPLEX, Blackb., Ooldea.

CISTELIDAE.

APELLATUS LATERALIS, Boh., Farina⁽²⁴⁾.

HOMOTRYSIS CARBONARIUS, Germ., Parachilna.

H. TENEBRIOIDES, Blackb., Cooper Creek, Ooldea⁽²⁴⁾.

(24) For these names we are indebted to Mr. H. J. Carter.

ANTHICIDAE.

ANTHICUS SEMIPUNCTATUS, n. sp.

♂. Reddish-brown; appendages paler, abdomen blackish except at base, elytra obscurely fasciate. Moderately clothed with short, whitish pubescence, the elytra in addition with some longer, suberect hairs.

Head rather convex, with sparse punctures; base bilobed just before neck. Eyes rather large and prominent. *Antennae* rather thin, extending to about middle coxae. *Prothorax* long, thin, and strongly convex, about twice as wide near apex as at the subbasal constriction, non-tuberculate at base; with small, scattered punctures. *Elytra* long, rather thin, and lightly convex, at base about twice the width of prothorax, sides feebly dilated to about the middle; with dense and rather coarse punctures, subseriately arranged, but suddenly becoming much smaller and sparser beyond the middle. *Sterna* with punctures somewhat smaller but otherwise as on base of elytra. *Legs* long; four hind femora subpedunculate; hind tibiae with a small acute tooth on the inner side about the middle; basal joint of hind tarsi lightly curved, almost as long as the rest combined. Length (♂, ♀), $3\frac{1}{4}$ - $3\frac{3}{4}$ mm.

♀. Differs in having somewhat shorter legs and simple hind tibiae.

Hab.—South Australia: Birkett's Woolshed, Petermorra Spring (Museum Expedition), Oodnadatta, Leigh Creek (Blackburn's collection), Murray River (H. S. Cope), Karoonda to Peebinga (G. E. H. Wright); Queensland: Cunnamulla (H. Hardcastle), Winton (A. M. Lea); Western Australia: Cue (H. W. Brown), Geraldton (Lea); North-western Australia: Derby (W. D. Dodd). Type, I. 7961.

In some respects close to *wollastoni*, but narrower, elytra with coarser and sparser punctures on basal half, suddenly becoming much smaller and sparser (practically absent) on an obscurely defined post-median fascia (this fascia is rather wide and complete, and on some specimens almost black, but it is not at all sharply defined on its front edge, the tips beyond it, however, are much paler—on some specimens almost flavous; on *wollastoni* the punctures evenly decrease in size posteriorly, and the markings are different; on the median fascia of *rectifasciatus*, *confertus*, and *gawleri*, the punctures are also sharply defined. On some specimens the hind femora are infuscated; on many females no part of the abdomen is blackish.

ANTHICUS XEROPHILUS, n. sp.

Reddish-flavous, legs paler, abdomen infuscated or black towards the apex; elytra with two transverse spots almost

meeting on suture, and the tips black or blackish, clothed with extremely short, pale, depressed pubescence.

Head moderately wide and lightly convex; with small scattered punctures; base feebly bilobed above neck. *Eyes* rather large and prominent. *Antennae* rather long and thin, passing middle coxae. *Prothorax* rather flat, slightly longer than the greatest width, which is near apex and about once and one-half the width of base, sides constricted near base, a narrow transverse impression at base; with dense and small punctures. *Elytra* about twice the width of base of prothorax, sides feebly dilated to middle; with crowded and small but sharply defined punctures, gradually becoming smaller posteriorly. *Legs* long and thin; basal joint of hind tarsi almost as long as the rest combined. Length, $2\frac{1}{4}$ - $2\frac{3}{4}$ mm.

Hab.—South Australia: Oodnadatta (Blackburn's collection); Queensland: Cunnamulla (H. Hardcastle); Western Australia: Geraldton (A. M. Lea). Type, I. 7962.

In general appearance very close to *paululus*, but with much denser and quite sharply defined (although small) elytral punctures; *monilis*, to which also it looks very close, is rather more convex, with slightly larger and sparser punctures, and less prominent eyes; there are also several closely allied but at present undescribed species. The median spots on the elytra are rather wide near the sides (which they do not touch) and are narrowed and diluted towards the suture (across which they never seem to meet); the derm between the median and apical spots is sometimes quite as pale as the legs; on some specimens there is a slight infuscation about the scutellum.

ANTHICUS AUSTRALIS, King, var.

Some specimens from Oodnadatta, Leigh Creek, Murray River, and Grange, appear to belong to this species, but differ from the typical form in having the pale elytral fasciae much larger; on the normal form of *australis* the pale post-median fascia is considerably shorter than the black median portion (at most one-third the length), and is about half the length of the black apical portion; but on eight specimens of this variety the pale postmedian fascia near the suture is fully as long (on some specimens it is decidedly longer) as the black median portion and distinctly longer than the black apical portion; the pale subbasal fascia is also much larger than on the typical form; the head on most of these specimens has a narrow (but distinct) shining median line, that is absent from the typical form.

ANTHICUS POSTICALIS, Lea.

Three specimens from Oodnadatta differ from the types of this species in having the prothorax of a rather bright red, and the head not much darker.

A. FLORALIS, Payk., Ooldea.

A. INGLORIUS, Lea, Strzelecki Creek.

A. KREUSLERI, King, Oodnadatta.

A. MASTERSI, King, Leigh Creek.

A. MELANCHOLICUS, Lea, Hergott, Leigh Creek, Lake Callabonna, Port Augusta.

A. MONILIS, King, Oodnadatta, Ooldea.

A. MYRTEUS, King, Leigh Creek, Oodnadatta.

A. UNIFASCIATUS, King, Leigh Creek, Oodnadatta.

A. WOLLASTONI, King, Birkett's Woolshed, Farina, Hergott, Mount Painter, Oodnadatta, Trinity.

FORMICOMUS QUADRIMACULATUS, King, Parachilna.

MECYNOTARSUS AMABILIS, Lea, Mount Painter.

RHIPIDOPHORIDAE.

EMENADIA NIGROAPICALIS, Lea.

E. NOVAE-HOLLANDIAE, Gerst.

Specimens of these remarkable insects were obtained on the remarkable flower *Dicrastylis Beveridgei* ⁽²⁵⁾.

CURCULIONIDAE.

MYLLOCERUS MULTIMACULATUS, Lea.

Three specimens (probably females) from Strzelecki Creek appear to belong to this species, but differ from the types in having the elytral spots less conspicuous and antennae and legs thinner than those of the female, and conspicuously thinner than those of the male.

MYLLOCERUS SQUAMICORNIS, Lea.

A specimen from Ooldea appears to belong to this species but differs from the type in having the head rather more convex in front of the eyes, and the elytra with numerous small infuscated spots.

MYLLOCERUS TATEI, Blackb.

Beaten in abundance from *Dodonaea viscosa* near Ooldea.

MYLLOCERUS RUGICOLLIS, Lea.

On the male of this species the femora are unusually stout and strongly dentate, and the front trochanters are each armed with a small spine.

(25) Name received from Mr. Black.

MYLLOCERUS DARWINI, Blackb.

Three specimens from the Daly River (Northern Territory) are structurally so close to *darwinii* that I cannot regard them as representing more than a variety of that species, but their legs and antennae are almost entirely red.

Another specimen from the Daly River apparently represents another variety; it has the appendages partly dark, but the scales entirely white or whitish.

MYLLOCERUS QUADRICOLOR, n. sp.

Black, appendages reddish. Densely clothed with bright green scales, but becoming almost white on appendages; a row of depressed pale setae on each elytral interstice.

Head flat between eyes, with a narrow median fovea. Eyes strongly convex. Rostrum slightly wider than long, carinae normally concealed. Antennae rather long and thin, first joint of funicle no longer than second. *Prothorax* moderately transverse, sides increasing in width to extreme base, convex along middle but widely depressed towards each side of middle; punctures normally concealed. *Elytra* conspicuously wider than prothorax, sides almost parallel to beyond the middle; with rows of rather large punctures, appearing much smaller and suboblong through clothing. *Femora* lightly but acutely dentate. Length, 4-4½ mm.

Hab.—Northern Territory: Darwin (G. F. Hill and W. K. Hunt). Type, I. 4090.

A small species belonging to B of the 1914 table of the genus, and there associated with *longus*; from which it differs in size, shape, antennae, impressions of prothorax, etc. It looks very out of place amongst the species of B, but the base of the prothorax is conspicuously wider than the apex. The scales on the elytra of the type are uniformly green, but on a second specimen there are a few feebly infuscated spots; on the second specimen also the impressions on the pronotum are deeper, so that it appears to be rather conspicuously bifoveate.

MYLLOCERUS VIRIDIMICANS, n. sp.

Black; appendages reddish. Densely clothed with bright green scales, becoming almost white on antennae and parts of legs; a single row of very inconspicuous setae on each elytral interstice.

Head feebly convex and with a small interocular fovea. Eyes subelliptic and moderately convex. Rostrum moderately long, median and sublateral carinae traceable through clothing. Antennae thin and rather long; scape narrowly grooved along under-surface; first joint of funicle distinctly

longer than second. *Prothorax* moderately transverse, sides gently but distinctly increasing in width to base, apex gently incurved to middle; punctures normally concealed. *Elytra* much wider than prothorax, feebly increasing in width to beyond the middle; striation distinct, seriate punctures moderately large but appearing very small and narrow through clothing, punctures on interstices normally quite concealed. *Femora* scarcely visibly dentate. Length, 5 mm.

Hab.—South Australia: Ooldea. Type (unique), I. 7600.

In the 1914 table of the genus would be associated with *taylori*, from which it differs in being smaller, prothorax decidedly longer and at base conspicuously much narrower than base of elytra, head longer, eyes less prominent, etc. The scales of the type have the beautiful bright-green colour of fresh specimens of *tatei*, but that species belongs to a different section of the genus. The elytral setae are inconspicuous, even from the sides.

MYLLOCERUS OBLIQUIFASCIATUS, n. sp.

Black; appendages obscurely reddish. Densely clothed with white or whitish scales, more or less variegated on the head and prothorax, the elytra with two conspicuous oblique dark fasciae; head and prothorax with fairly numerous depressed setae, but on the elytra becoming very distinct and suberect (although not very long).

Head gently convex between eyes; with a narrow interocular fovea. Eyes subovate, not very prominent. Rostrum subcylindrical, slightly longer than wide, sublateral carinae distinctly traceable through clothing, the median one concealed. Antennae long but not very thin, first joint of funicle much longer than second. *Prothorax* moderately transverse, sides gently rounded, base and apex equal; punctures concealed. *Elytra* much wider than prothorax, parallel-sided to near apex; striation distinct but punctures in striae normally almost concealed. *Femora* scarcely visibly dentate. Length, $4\frac{3}{4}$ -7 mm.

Hab.—Western Australia: Ankertell (H. W. Brown). Type, I. 7603.

A very distinct species, with a curious subcylindrical rostrum. The elytral setae are suberect and conspicuous, but not long enough for the species to be referred to C, in the 1914 table; in which it would be referred to F, K, from all the species of which it is strikingly distinct. On some specimens the appendages are distinctly reddish, but on all the others they are almost as dark as the body parts. The majority of

the scales on some specimens are almost of a snowy whiteness (on parts of the under-surface sometimes with a vague golden gloss), but usually have a slightly rusty appearance, on the prothorax they are sometimes of a slaty-grey, with paler scales along the middle and sides; the elytra have two very conspicuous dark oblique fasciae (almost V-shaped), one commencing about the middle of the base on each side and ending on the suture before the middle, the other beginning near the sides beyond the middle and ending very close to the suture near the apex; the fasciae are sometimes broken up into disconnected spots, but the V-shaped patterns appear to be always distinct. The male differs from the female in being smaller, markings usually more sharply defined, appendages longer, antennae somewhat thicker and abdomen much less convex.

MYLLOCERUS VILLOSIPENNIS, n. sp.

Black; appendages more or less obscurely diluted with red. Densely clothed with whitish scales, on the prothorax and elytra conspicuously variegated with infusate markings; elytra with numerous long, more or less erect, dark hairs, except towards base.

Head flat between eyes; inter-ocular fovea almost concealed. Eyes not very prominent. Rostrum rather short, sublateral carinae traceable through clothing, antennary pits close together. Antennae long and thin; first joint of funicle distinctly longer than second. *Prothorax* not much longer than wide, sides moderately rounded, base and apex subequal; setiferous punctures traceable through clothing. *Elytra* much wider than prothorax, sides feebly dilated to beyond the middle; striae distinct, but seriate punctures appearing small through clothing. *Femora* dentate. Length, $4\frac{1}{2}$ -5 mm.

Hab.—South Australia: Ooldea. Type, I. 7602.

The long hairs cause this species to be referable to C of the 1914 table; some of the scales have a vague bluish tinge, but disregarding these the species would be associated with *suturalis*, from which it differs in being larger, long clothing of elytra more in the nature of straggling hairs than stiff setae, and in many other particulars. The scales on the under-surface in some lights have a slight golden gloss; the darker scales on the upper-surface form three infusate vittae on the pronotum (the paler portions there have a spotted appearance, owing to numerous setiferous punctures: these are also on the darker parts, but are not so conspicuous), and numerous spots (frequently conjoined) on the elytra. The male differs from the female in being smaller, appendages slightly longer, abdomen less convex, elytra less dilated posteriorly, and with more numerous hairs.

MYLLOCERUS ZOPHERUS, n. sp.

Black; appendages and abdomen more or less obscurely diluted with red. Densely clothed with sooty and whitish scales; prothorax with numerous stout but depressed setae, each elytral interstice with a rather inconspicuous row of setae.

Head somewhat flattened between eyes, inter-ocular fovea rather narrow. Eyes not very convex but with coarser facets than usual. Rostrum about as long as the basal width; median carina distinct in front, the others not traceable through clothing. Antennae moderately long and thin; first joint of funicle conspicuously longer than second. *Prothorax* moderately transverse, sides lightly rounded, base and apex subequal. *Elytra* much wider than prothorax, parallel-sided to near apex; striation distinct but seriate punctures appearing small through clothing. *Femora* very feebly dentate. Length, $4\frac{1}{2}$ mm.

Hab.—South Australia: Port Augusta. Type (unique), I. 7604.

In general appearance close to some forms of *varius*, but prothorax trivittate, and eyes with coarser facets. In the 1914 table it would be associated with *multimaculatus*, and in general appearance it resembles that species, but the prothorax is shorter, the eyes are larger and more convex, and the scape is decidedly thinner. On the upper-surface the dark scales are more numerous than the pale ones, on the head and elytra they are irregularly intermingled, the paler ones forming small irregular spots or scattered singly, but on the prothorax the paler ones form four and the darker ones three feebly defined vittae; on the abdomen the scales are almost wholly white, but on the rest of the under-surface and on the appendages the two colours are more or less intermingled.

MYLLOCERUS ASHI, n. sp.

Black; the appendages in places very obscurely diluted with red. Densely clothed with greyish-white scales, more or less conspicuously mottled with darker ones; on the under-surface usually white but with a bluish, or greenish, or golden gloss; upper-surface with numerous distinct but more or less depressed setae, more or less irregularly seriate on the elytra.

Head gently convex between eyes, inter-ocular fovea small. Eyes moderately large and prominent. Rostrum about as long as the basal width, median and sublateral carinae usually traceable through clothing, distance between antennary pits about half of that between eyes. Antennae long and not very thin; first joint of funicle distinctly longer than second. *Prothorax* rather strongly transverse, sides feebly rounded, base slightly wider than apex; punctures normally concealed,

but the setiferous ones traceable. *Elytra* much wider than prothorax, parallel-sided to near apex; striation distinct, seriate punctures moderately large, but appearing small through clothing. *Femora* lightly dentate. Length, 5-7 mm.

Hab.—South Australia: Ooldea. Type, I. 7601.

Twenty-three specimens (including several pairs taken *in cop.*) are before me, and they appear to belong to but one species, but some specimens have three vaguely infuscated lines on the pronotum, and others are slightly transversely depressed near base and apex, so that (by the 1914 table), the various specimens might be widely separated. The specimens that might be referred to E, of that table, and there associated with *multimaculatus*, differ from it in being consistently larger, pronotum much wider, head considerably larger and scape much longer and thinner. Those that might be referred to F, *i*, differ from *rugicollis* as they differ from *multimaculatus*; from *melvillensis* they differ in many respects. Those that might be referred to F, *n*, differ from *nasutus* in having the eye not quite so long and rather less convex (the distance between the front of an eye and the antennary pit is about once and one-third the length of an eye, in *nasutus* it is about twice the length of an eye). On the elytra the two colours (of scales) are sometimes very feebly contrasted, the paler scales being in the majority; but on some males the darker scales are in the majority and sharply contrasted; on the pronotum there are usually three vaguely infuscated lines. The secondary sexual differences are slight.

MYLLOCERUS ANGUSTIPENNIS, n. sp.

Piceous-brown; appendages obscurely diluted with red. Densely clothed with obscurely variegated brownish scales, becoming whitish on sides and under-surface; a row of inconspicuous setae on each elytral interstice.

Head moderately convex between eyes, these moderately large but not very prominent. Rostrum distinctly narrowed from base to near apex, median and sublateral carinae narrow and distinct. Antennae long and thin; first joint of funicle much longer than second. *Prothorax* strongly transverse, sides moderately rounded, base not much wider than apex; punctures normally concealed. *Scutellum* strongly transverse. *Elytra* at base scarcely (if at all) wider than base of prothorax, sides feebly dilated to about the middle, and then strongly narrowed to apex; seriate punctures of moderate size, but distinct through clothing, their containing striae very feebly impressed. *Femora* feebly dentate. Length, $4\frac{1}{4}$ mm.

Hab.—Northern Territory: Darwin (H. Wesselmann). Type (unique), I. 7609.

A curious species, structurally close to *subapterus*, but scales not green, elytral setae much less conspicuous (indistinct even from the sides), legs and antennae darker, and prothorax with less rounded sides. On the pronotum three vaguely infuscated lines of scales may be traced in some lights.

MYLLOCERUS ABERRANS, n. sp.

Reddish-brown; appendages somewhat paler. Densely clothed with very pale-brown, almost fawn-coloured scales, becoming whitish on under-surface; with dense, conspicuous, subdepressed, almost golden setae; some conspicuous vibrissae at the position of ocular lobes.

Head convex at base but flat between eyes; inter-ocular fovea small. Eyes large and subovate, but not very prominent. Rostrum about as long as the basal width, sides feebly decreasing in width to near apex, median carina distinct in front, the sublateral ones scarcely traceable through clothing. Antennae long and thin; first joint of funicle distinctly longer than second. *Prothorax* moderately transverse, sides gently rounded, base not much wider than apex, the latter very gently incurved to middle; punctures normally concealed. *Elytra* much wider than prothorax, sides feebly dilated to beyond the middle; striation distinct, seriate punctures appearing small through clothing. *Femora* edentate. Length, 6 mm.

Hab.—Northern Territory: Daly River (H. Wesselmann). Type (unique), I. 7605.

The prothorax is perceptibly wider at the base than at the apex, but not much so, so that the species should preferably be referred to BB rather than to B of the 1914 table. Regarding it as such it would be associated with the species of F, *ii*, from all of which it may be distinguished by the prothoracic vibrissae. The front margin of the prothorax is without ocular lobes, but at their position (of other sub-families) there is on each side some conspicuous (almost golden) vibrissae. The setae of the upper-surface are unusually dense, but are not conspicuously erect or suberect; on the elytra they form two or three irregular rows on each interstice. The lower edge of each eye almost touches a glabrous space on the under-surface of the rostrum.

TITINIA BICOLOR, Blackb., Parachilna.

T. IGNARIA, Pasc., Ooldea, Parachilna.

HOMOEOTRACHELUS AUSTRALASIAE, Faust., Orroroo.

PROSAYLEUS COMOSUS, Germ., Wookalla.

P. ROSTRALIS, Blackb., Ooldea.

CATASARCUS ARMATUS, Blackb., Ooldea.

C. STIGMATIPENNIS, Boi., Clayton Creek, Kopperamanna.

POLYPHRADES RAUI, n. sp.

Black; densely clothed with snowy-white scales closely applied to derm; with sparse thin setae on elytra, but more numerous elsewhere.

Head wide; eyes scarcely interrupting the general convexity. Rostrum short, distinctly narrowed from base to apex, apical triangle glabrous and with small distinct punctures, a short carina behind it. Antennae short, five apical joints of funicle transverse. *Prothorax* widely transverse, evenly convex, sides gently rounded. *Elytra* subcordate, much wider than prothorax, widest at about basal third; with rows of large but almost concealed punctures. *Legs* moderately stout; front tibiae moderately, the others lightly, denticulate; claw joint of tarsi almost as long as the others combined. Length, 6 mm.

Hab.—South Australia: Carraweena. Type (unique), I. 7960.

The claw joint is unusually long and the claws are more widely separated than is usual in *Polyphrades*, but they are soldered together for about half their length; the species is a rather aberrant one, and in some respects appears to approach *Onesorus*. The type has not been abraded, but the elytra appear to be uniformly convex with no striae, the seriate punctures being isolated in the rows. To the naked eye the insect appears pure white, except where a slight amount of abrasion has revealed the black derm, but under a lens the scales along the middle of the pronotum and about the elytral suture appear somewhat slaty-grey.

P. FORTIS, Blackb., Ooldea.

P. SATELLES, Blackb., Cooper Creek.

LEPTOPS FUMATUS, Lea.

Two specimens from Cooper Creek differ from the types in being somewhat smaller, and with conspicuously paler scales; one of them has the tubercles more acute than on the type, but on the other they are less acute.

LEPTOPS GLOBICOLLIS, Lea.

Four specimens from Carraweena appear to represent another variety of this species; they differ from the types in being smaller, with the scales considerably paler (almost white) and with the rostrum and tibiae not quite so stout.

L. CACOEZELUS, Lea, Ooldea.

L. CONTRARIUS, Blackb., Ooldea.

L. DUPONTI, Boi., var. INTERIORIS, Blackb., Parachilna.

L. GRAVIS, Blackb., Leigh and Strzelecki Creeks.

ONESORUS ALBATUS, Lea.

Numerous specimens were taken, usually walking on the sandhills; they vary in length from 8 to 12 mm., and most of them have the clothing irregularly distributed, as on the type, but on one specimen it is almost uniform on the elytra. Clayton and Cooper Creeks, Kopperamanna, Lakes Crossing, Strzelecki Creek, Trinity.

ESSOLITHNA JONESI, n. sp.

♂. Black; densely clothed with mouse-coloured scales, becoming paler on sides and white or whitish on under-surface, upper-surface with numerous white scales scattered singly, and on the elytra often condensed into loose spots; muzzle with a few golden-green or green scales; elytra with numerous stiff erect setae on and near the shoulders, on the fourth to sixth interstices.

Head large, with dense concealed punctures. Rostrum short, sides oblique. Antennae short and stout; first joint of funicle about as long as second and third combined, third-seventh transverse. *Prothorax* about once and one-half as wide as long, sides moderately rounded; with small dense punctiferous granules, normally quite concealed. *Elytra* subcordate, widest across basal third, but at base no wider than base of prothorax; with rows of rather large, round punctures, but appearing small and narrow through clothing. *Legs* short and stout; femora each conspicuously notched on upper-surface near apex. Length (♂, ♀), 4-5 mm.

♀. Differs in being wider, abdomen more convex, and femora each very feebly incurved on upper surface near apex.

Hab.—South Australia: Ooldea. Type, I. 7611.

An unusually distinct species, in general appearance somewhat like *cordipennis*, but the head and femora of the male very different; the single claw to each tarsus readily distinguishes it from *Polyphrades*, to which genus, at first glance, it appears to belong. The conspicuous notch on the upper-surface of each of the femora of the male is a remarkable character; on the female these notches are scarcely indicated; the disposition of the elytral setae is also unusual. On fresh specimens the upper-surface has a conspicuously speckled appearance, owing to the numerous white scales scattered about, but on less well-preserved specimens these are less noticeable, and the surface appears of a uniform dingy-grey. Mr. Jones obtained numerous specimens on young mallee shoots in April and May, and we took one in January.

E. SERIATA, Blackb., Ooldea.

E. SQUALIDA, Blackb., Farina.

ACHERRES GRANULATUS, Ferg., Ooldea.

TALAUROINUS MACULIPENNIS, Lea.

Numerous specimens were obtained at Ooldea from under spinifex, or wandering about at night.

T. PILULARIUS, MacL., Ooldea.

T. REGULARIS, Sl., Ooldea.

OXYOPS ALPHABETICA, n. sp.

Black; parts of antennae obscurely diluted with red. Densely but irregularly clothed with whitish scales and stout setae.

Head with coarse, partially concealed punctures, with a narrow deep impression in middle. Rostrum stout, about as long as head across eyes; in front with small exposed punctures, elsewhere with punctures as on head. Antennae stout; third joint of funicle slightly shorter than second, and slightly longer than first. *Prothorax* about as long as basal width, base much wider than apex, disc widely irregularly flattened; with coarse punctures. *Elytra* much wider than prothorax, each side with a vague swelling behind the shoulder; with rows of large oblong punctures, third interstice with an elongated tubercle near base, and another at summit of apical slope. Intercoxal process of *mesosternum* subacutely produced. Length, 7-9 mm.

Hab.—South Australia: Oodnadatta (Blackburn's collection). Type, I. 7958.

Not very close to any other species known to me, but perhaps closer to *vitiosa* than to any other; it differs from that species in the elytral markings, and by the third interstice on each elytron having but two tubercles. The clothing varies from stout setae to wide scales, and is more uniform on the under-surface than on the upper; the tip of the rostrum is glabrous, each side of the prothorax is almost glabrous, and there is a vague oblique line near each side; on the elytra there are sinuous glabrous markings: that on the right elytron is shaped like an irregular S (reversed on the left); on the left it is sometimes shaped like an interrogation mark (?), reversed on the right), the marks extend from below the shoulders almost to the apex (near the suture), and along their courses the whole extent of the punctures is exposed; elsewhere the apparent size of the punctures is greatly reduced. Specimens in perfect condition have an ochreous meal over most of the surface, but on immersion in alcohol this is removed, and generally the markings are rendered more obscure.

OXYOPS VACILLANS, n. sp.

Black; in parts obscurely reddish. Clothed with white setae or scales, denser along middle from apex of prothorax to apex of elytra, and on under-surface than elsewhere.

Head coarsely punctured, with a deep impression in middle, strongly constricted behind eyes (these very prominent). Rostrum short, about as long as wide, apex depressed and with small dense exposed punctures; elsewhere with punctures partially concealed. Antennae rather stout; second joint of funicle almost twice as long as first or third. *Prothorax* evenly convex, about as long as basal width, sides gently decreasing in width to apex; densely granulate-punctate. *Elytra* much wider than prothorax; with rows of large punctures, each of which has a stout scale; interstices with numerous small granules, third with an elongated elevation near base, another on each shoulder, and a smaller one between. *Legs* short and stout. Length, $7\frac{1}{2}$ - $8\frac{1}{2}$ mm.

Hab.—South Australia (Blackburn's collection), Ooldea. Type, I. 7959.

At first glance this species appears quite an ordinary *Gonipterus*, nearer perhaps to *citriphagus* than to any other; but the sexes vary; on one sex (probably the male) there is a conspicuous post-humeral tubercle on each elytron, at the usual position in *Gonipterus*; but on the other sex there is no tubercle there, and but a vaguely indicated swelling (less pronounced than on many species of *Oxyops*), and as the intercoxal process of the mesosternum is subacutely produced in both sexes the species has been referred to *Oxyops* rather than to *Gonipterus*. On one specimen the antennae and tarsi are the only parts that are reddish, but on a specimen taken (*in cop.*) with it, the only parts that are black are parts of the head, and the subbasal elevations of the elytra; five other specimens are intermediate. The tip of the rostrum is glabrous, the clothing on the pronotum forms a distinct median line, is very dense on the scutellum, and has a spotted appearance on the suture; the individual scales are larger on parts of the legs and the sides of the sterna than elsewhere. Some specimens on capture are almost covered with an ochreous or muddy-looking meal, but this disappears in alcohol.

OXYOPS CRASSIROSTRIS, Pasc.

Two specimens from Ooldea are in perfect condition, and at first glance appear very different to a co-type of this species. They are thickly coated on the upper-surface with brickdust-like meal, but this does not conceal a conspicuous patch of whitish scales along the middle of the pronotum, the patch

continued on to the base of the elytra and scutellum, where it is subquadrate in shape, the apical slope of the elytra has a large patch of similar scales, and there are a few spots scattered about; other specimens from Wirha and Coolgardie have the dust-like meal less distinct or almost absent and the white (on some specimens of a rather pale ochreous) patches much less distinct, but they all agree in having the shoulders rather prominent and multi-granulate.

O. FASCIATA, Boi., Oodnadatta, Ooldea.

O. GEMELLA, Pasc., Ooldea.

O. OBSCURA, Blackb., Cooper Creek, Oodnadatta.

O. SOROR, Lea, Oodnadatta, Strzelecki Creek.

BRYACHUS SQUAMICOLLIS, Pasc., Ooldea.

PANTOREITES ARCTATUS, Pasc., Frome Well.

SYARBIS GOUDIEI, Lea, Ooldea.

RHINARIA TRAGOCEPHALA, Lea, Ooldea.

APARETE PALPEBROSA, Pasc., Kingunyah.

ETHEMAIA SELLATA, Pasc., Ooldea, Wookalla.

OPHRYOTA RAPAX, Blackb., Cooper Creek.

LIXUS MASTERSI, Pasc., Ooldea.

ORTHORRHINUS CYLINDRIROSTRIS, Fab., Parachilna.

EPAMAEBUS ZICZAC, Lea.

Numerous specimens were taken at Ooldea with the elytral markings varying from sharply defined to scarcely traceable (as on some specimens from Forest Reefs previously commented upon).

NIPHOBOLUS DECEPTOR, Blackb., Farina, Strzelecki Creek.

STOREUS MUNDUS, Blackb., Parachilna.

SYMBOTHINUS SQUALIDUS, Blackb., Ooldea.

XEDA FASCIATA, Lea, Birkett's Woolshed.

MISOPHRICE ARIDA, n. sp.

Black; clothed with large, soft, white scales.

Head with punctures normally concealed. *Rostrum* moderately long, thin, and lightly curved; with series of fine punctures, basal third partially concealed in male, less in female. *Prothorax* lightly transverse, sides rather strongly rounded. *Elytra* considerably wider than prothorax, parallel-sided to near apex; with regular rows of large, but partially concealed punctures. *Legs* moderately long. Length, $1-1\frac{1}{4}$ mm.

Hab.—South Australia: Ooldea. Type, I. 7629.

A minute black species, allied to *parallela* and *soror*, but even smaller than those species, and distinct by the arrangement of the elytral scales, these are notably stouter, and so

placed that the odd interstices appear to be uniformly clothed throughout their length, whilst on the even ones the scales are so disposed that there is a glabrous space between each, giving them a checkered appearance ⁽²⁶⁾. On some specimens the front femora appear to be obscurely diluted with red. Only seven specimens were obtained, although branches of *Casuarina*, sp., were frequently beaten over the umbrella.

M. DUBIA, Lea, Ooldea.

EPACTICUS WHITEI, n. sp.

Reddish-castaneous; head, rostrum, prothorax, under-surface, funicle, and club somewhat darker. Moderately densely clothed with stout, white, depressed setae or scales, mixed with more rounded ones at sides of prothorax and on metasternum; elytra in addition with conspicuous, suberect setae, forming a single row on each interstice.

Rostrum about the length of prothorax, feebly curved; striate-punctate, punctures glabrous on apical half, each with a white scale on basal half. *Antennae* thin, inserted slightly closer to apex than to base of rostrum; first joint of funicle long; club rather short. *Prothorax* about as long as wide, sides gently rounded, base very little wider than apex; with dense and (on removal of clothing) sharply defined punctures. *Elytra* rather narrow, distinctly wider than prothorax, parallel-sided to near apex; with regular rows of large, partially concealed punctures. Length, $2\frac{1}{4}$ - $2\frac{3}{4}$ mm.

Hab.—South Australia: Frome Well, Leigh Creek. Type, I. 7606.

It is with some doubt that this species is referred to *Epacticus*, as the club is not very elongate (it is, however, not much shorter than in *ruber*, the type of the genus) and the rostrum is almost straight. In all other respects it agrees with the position assigned to the genus in Blackburn's table of the subfamily ⁽²⁷⁾ and with the original diagnosis ⁽²⁸⁾; the scales are not as coarse as on *ruber*, but more as on the species commented upon as being probably *nigrirostris*; from which it differs in the straighter rostrum and elytra with a conspicuous row of semi-upright setae on each interstice. The side pieces of the mesosternum and of the metasternum are so densely covered with scales that the derm is entirely concealed, but where the derm of the under-surface is not concealed it appears to be almost black; on the elytra the

(26) This appearance, however, is affected by a slight amount of abrasion.

(27) *Ante*, 1894, p. 149.

(28) *L.c.*, 1893, p. 305.

scales are somewhat denser on the suture and at the position of the subapical callosities (of other genera) than elsewhere, but not very conspicuously so.

A specimen from Western Australia: Swan River (A. M. Lea), possibly belongs to this species, but has the tarsi darker, head and rostrum almost black, and elytra somewhat deeper (as viewed from the sides); its elytral margins are narrowly stained with black, but those of the type are also narrowly infuscated.

EPACTICUS OCCIDENTALIS, n. sp.

♂. Light-castaneous, some parts darker. Densely clothed with stout, depressed, white setae or scales.

Rostrum moderately curved, about the length of prothorax; striate-punctate, punctures on apical half mostly glabrous, on basal half each with a scale. Antennae thin, inserted nearer apex than base of rostrum, club moderately long. *Prothorax* feebly transverse, sides gently rounded, base slightly wider than apex; punctures normally concealed. *Elytra* distinctly wider than prothorax, sides almost parallel to near apex; with regular rows of fairly large, but more or less concealed, punctures. Length (♂, ♀), $1\frac{1}{2}$ -2 mm.

♀. Differs in having the rostrum considerably longer and thinner, its punctures smaller and mostly glabrous, antennae inserted slightly nearer base than apex of rostrum, and abdomen more convex.

Hab.—Western Australia: Geraldton (A. M. Lea). Type, I. 7613.

In general appearance fairly close to *nigrirostris*, but slightly smaller, elytra somewhat wider, and rostrum not black. The head and sterna are darker than elsewhere, parts of the sterna on some specimens being almost black, parts of the tarsi are infuscated, but the femora and tibiae are usually slightly paler than the elytra; the funicle and club are darker than the scape. The elytra on some specimens are almost uniformly clothed, but on many have a slightly mottled appearance, owing to the partial absence or slight variegation of the scales (somewhat as on some specimens of *nigrirostris*): in addition to the stout setae or scales, there are some thinner ones, but these are moderately distinct only from the sides.

EPACTICUS BIMACULATUS, n. sp.

♂. Castaneous; some parts infuscated or black. Densely clothed with large, soft, white scales, closely applied to derm, but elytra with two glabrous, or almost glabrous, spots.

Rostrum rather lightly curved, slightly longer than prothorax; apical half shining and with rows of distinct punctures, basal half with larger punctures but more or less

concealed by scales. Antennae thin, inserted slightly nearer apex than base of rostrum; club moderately long. *Prothorax* about as long as wide, sides moderately rounded, base slightly wider than apex; with dense but normally concealed punctures. *Elytra* rather narrow, much wider than prothorax, parallel-sided to near apex; with rows of rather large, but more or less concealed punctures. Length (σ , ♀), 2-2 $\frac{1}{4}$ mm.

♀ . Differs in having the rostrum considerably longer and thinner, its clothing not continued beyond the basal third, antennae inserted slightly nearer the base than apex of rostrum, and abdomen more convex.

Hab.—South Australia: Lucindale (B. A. Feuerheerdt, his No. 742), Coorong (S. A. White), Port Lincoln; Western Australia: Geraldton (A. M. Lea). Type, I. 7607.

Rather close to *ruber*, but elytra conspicuously bimaculate and tarsi black; the two conspicuous spots on the elytra are due to the partial or complete absence of scales; they are about two-fifths from the apex and close to the suture. The head, rostrum (part of this is usually diluted with red), prothorax (parts of the sides are usually diluted with red), scutellum, and most of the upper-surface and of the antennae and tarsi are black; the suture and margins of elytra are usually somewhat infuscated. On specimens in perfect condition each of the seriate punctures on the elytra appears to be partially filled by a stout seta or scale, but there are no true setae on the interstices, the clothing there consisting entirely of soft scales.

EPACTICUS NIGRIROSTRIS, Blackb.

The type of this species was unique in the Blackburn collection, and is now in the British Museum. There are, however, numerous specimens before me from Port Lincoln, Lucindale, and Kangaroo Island that agree with the brief description, and probably belong to the species.

The species is somewhat variable in its scales; on the elytra they are frequently whitish, but are sometimes mixed with somewhat darker ones, these occasionally having a maculate or vaguely fasciate appearance. The rostrum whilst usually black, is occasionally diluted with red at the tip; it is distinctly shorter and less curved on the male than on the female.

TYCHIUS MINUTISSIMUS, Boh.

Fourteen specimens from Ooldea probably belong to this species, they are structurally (sex for sex) identical with the specimens previously ⁽²⁹⁾ recorded as belonging to the species

(29) Ann. Soc. Ent. Belge, 1910, p. 105.

from Sydney, but they vary considerably in the colour of the rostrum and legs. On the males the legs and rostrum (except for their clothing) are entirely black, and the antennae are black except that the funicle is obscurely reddish; on some females the legs, antennae (except club), and apical half or more of the rostrum are flavous (although not so bright as on the Sydney specimens) but on others these parts are very obscure, although (except for the hind femora) scarcely black.

BELUS SEMIPUNCTATUS, Fab., var. POVERUS, n. var.

Numerous specimens (twenty-four) from Goolwa and Mudd Island, are structurally so close to *semipunctatus* that I cannot regard them as representing more than a variety, they differ from the typical form in being considerably paler (castaneous-brown, some parts infuscated) and not at all metallic; elytra clothed only along suture (on a few specimens, however, the medio-discal row of spots on each elytron is vaguely indicated), but in particular by the discal carinae; on the typical form the carina on each elytron commences as an oblique, impunctate, slightly elevated line, almost level with the front edge of the metasternum, but on this variety it commences just beyond the metasternum, the space before it being covered with normal punctures; the post-scutellar depression is also smaller and shallower.

BELUS ANGUINEUS, Pasc.

B. ventralis, Blackb.

The type of *ventralis* is a female of the species identified by both the late Rev. T. Blackburn and myself as *anguineus*. The species occurs in Western Australia and Queensland, as well as in South Australia (Quorn, Leigh Creek, and Oodnadatta).

BELUS BISON, Blackb.

This species was tabulated by both Blackburn and myself as having the front femora edentate; this is usually the case, but on a few specimens now before me the front femora are feebly but distinctly dentate; it was also noted by myself as having the "suture not suddenly and strongly raised at base," but the specimens upon which I so noted the species (a very similar one was taken at Ooldea), although belonging to *bison*, are not typical of that species, which usually has the suture strongly raised there. Ooldea, Orroroo, Parachilna.

BELUS TIBIALIS, Blackb.

This remarkable species appears to be fairly common at Lucindale; on the majority of specimens the elytra are almost

as densely clothed on the suture as on the median line of the pronotum, the rostrum is usually black and highly polished, but is occasionally dull red.

BELUS ANGUSTULUS, Germ.

I had previously identified (and tabulated as such) a species from Queensland, New South Wales, and Victoria that appeared (and still appears) to agree well with the description of *angustulus*, but I have seen no South Australian specimens of it (many of the species of *Belus* are very widely distributed). But Blackburn identified quite another species as *angustulus*, and as all the specimens before me of this species are from South Australia, the probability is that his is the correct identification. This species (although narrower) has elytra produced much as on *phoenicopterus*, and each metasternal episternum with a narrow glabrous space at the side (sometimes quite concealed by the elytra); on the specimens I had identified as *angustulus* (and which I now consider may represent a variety of *inconstans*) the elytra are much less acutely produced (somewhat as on *anguineus* and *scalaris*) and each metasternal episternum has a conspicuous rounded glabrous spot.

BELUS SCALARIS, Germ.

This species varies considerably in size (11-17 mm.), and although the front femora are usually edentate, they are occasionally very feebly dentate. Orroroo.

BELUS CRISTATUS, Lea.

This species occurs in Western Australia (Cue) as well as in South Australia; in my table ⁽³⁰⁾ of the genus the species was distinguished from *varipilis* by the antennae, but the character then relied upon was a sexual one. On the male the basal joint of the antennae is slightly longer than the third, but distinctly shorter than the second and third combined, the rostrum is shorter (although still rather long), stouter, and with coarser punctures; on the female the first joint is distinctly longer than the second and third combined. The species, however, differs considerably from *varipilis* in the clothing, and of the elytral carinae on that species the longer one on each elytron is continued almost to the base, obliquely diverging towards it (much as on the typical form of *semipunctatus*), but on *cristatus* it ends about half-way to the base (being much as noted on the variety *poverus* of *semipunctatus*). Ooldea.

(30) *Ante*, 1908, pp. 231-235.

BELUS ACACIAE, Lea.

A specimen from Swallow (Central Australia) possibly represents a variety of *acaciae*, but differs from the types in being slightly more robust, prothorax with sides more dilated, and spots of clothing on elytra more numerous and better defined.

BELUS VERTEBRALIS, Lea.

A specimen from Charters Towers (Queensland) differs from the types in being without a nude spot on each metasternal episternum, its whole surface being densely and uniformly clothed.

BELUS PLAGIATUS, Pasc.

On specimens from New South Wales and Southern Queensland, of this species, the subapical spots of the elytra are elongated and there are several small spots about the middle; but on specimens from Northern Queensland the subapical spots are almost circular, and the median spots are wanting.

BELUS VETUSTUS, Pasc.

A specimen from Ooldea possibly represents a variety of *vetustus*, it differs from typical specimens in having the elytra with fewer setae scattered singly, the pronotum with the dorsal channel more conspicuously interrupted in middle, and with looser clothing, the abdomen (except at the sides) without distinct glabrous spots (these are sometimes but faintly indicated on otherwise typical specimens), and with the pubescence in five feebly defined stripes: a median and two lateral snowy ones, the others stramineous.

B. ANGUINEUS, Pasc., Ooldea.

B. FILIFORMIS, Germ., Orroroo.

B. PHOENICOPTERUS, Germ., Orroroo.

B. SERPENS, Pasc., Parachilna.

B. SUTURALIS, Boi., Ooldea, Orroroo, Parachilna.

BELUS INTERRUPTUS, n. sp.

Dark castaneous-brown, becoming almost black on parts of head and of legs; antennae and tarsi somewhat paler. In places densely clothed with more or less stramineous pubescence.

Head with coarse vermiculate punctures between eyes, becoming smaller but still crowded about base. Rostrum long and lightly curved; with dense and fairly coarse punctures on basal half, becoming smaller towards, and very fine in front. Antennae rather long, third joint slightly shorter than first and fourth and conspicuously longer than second,

eleventh about once and one-half the length of tenth. *Prothorax* moderately transverse, basal angles acute, median line rather narrow; with numerous small well-defined punctures. *Elytra* parallel-sided, each rather strongly produced at base, conjointly lightly produced at apex, with a conspicuous granulate elevation behind scutellum; densely granulate-punctate. *Femora* conspicuously dentate, hind pair extending to tip of second abdominal segment, basal joint of tarsi as long as second and third combined. Length, 10 mm. ⁽³¹⁾.

Hab.—Northern Queensland (Blackburn's collection). Type (unique), I. 7871.

A well-marked species allied to *grayi* and *punctirostris*, but markings very different (on the pronotum the disc, except for a conspicuous median line, is almost glabrous). The head and base of rostrum are rather sparsely clothed, but the eyes are encircled by pale clothing, and there is a feeble median line; on the pronotum the median line of clothing is well-defined (and continued on to the scutellum), and the sides are densely clothed; to the naked eye the elytra appear to be clothed with four conspicuous but much interrupted stripes, and there are a few small spots scattered about; on the elytra also there is some very short dark pubescence, but this is invisible from most directions; on the under-surface the clothing is very dense and with a beautiful pinkish and greenish iridescence, but with a glabrous spot on each side of the metasternum, and one on the metasternal episternum, and a row of irregular glabrous spots on each side of the abdomen; the legs are moderately clothed. The rostrum is about as long as the head and prothorax combined. The front femora are tridentate, two of the teeth being placed longitudinally.

BELUS MIMICUS, n. sp.

Black; parts of the appendages obscurely diluted with red. Irregularly clothed with white pubescence.

Head coarsely granulate-punctate between eyes, more finely towards base. Rostrum lightly but distinctly curved, about the length of prothorax; densely and finely transversely corrugated, and with punctures scattered about, larger and denser about base than elsewhere. Antennae not very thin, third joint somewhat shorter than first, scarcely longer than fourth and twice the length of second, eleventh about once and one-half the length of tenth. *Prothorax* about as long as basal width, sides feebly decreasing in width from base to apex (feebly incurved near apex), with a narrow median line; densely punctate or granulate-punctate. *Elytra* parallel-sided

(31) The lengths given are exclusive of the rostrum.

to near apex, which is lightly produced, each side of base obtusely produced, with a conspicuous granulate elevation behind scutellum; densely punctate, about base granulate-punctate. *Femora* rather stout, conspicuously dentate; hind ones extending to about middle of second abdominal segment; basal joint of tarsi distinctly shorter than the two following ones combined. Length, 11-14 mm.

Hab.—South Australia (Rev. A. P. Burgess), Parachilna (Field Naturalists' Excursion), Mount Lofty (S. H. Curnow), Quorn (Blackburn's collection). Type, I. 7874.

In my table of the genus ⁽³²⁾ might be placed in E, and would there be associated with *punctirostris*, with which it has little in common; if referred to EE, it would be associated with *brunneus*, to which it is certainly close, but from which it differs in being consistently larger, and elytra with spots not confined to suture. The pubescence (except on the under-surface) is rather sparse on the head, but encircles the eyes, the rostrum is glabrous (except that its base is sparsely clothed), the median line on the pronotum is feeble and interrupted, but the sides and the scutellum are densely clothed, on the elytra the spots are numerous and small, becoming crowded (and sometimes conjoined) close to the suture, but distinct to the sides and mostly with a feebly seriate arrangement; on the under-surface the clothing is mostly dense, but with a nude spot on each side of the metasternum and another on its episternum, abdomen rather sparsely clothed along middle, and with a row of glabrous spots towards each side, the legs are moderately clothed. On some specimens the median line of pale pubescence on the pronotum is not conspicuous, but this appears to be due to infiltration of grease; on some specimens also the elytra, and especially the legs, are not as dark as those of others. There are two conspicuous teeth on the front femora, and several smaller ones. A specimen from Parachilna, otherwise quite normal, has a row of small teeth on each side of the lower apical half of the rostrum; on many specimens of *brunneus* ⁽³³⁾ similar rows may be seen.

BELUS MULTIMACULATUS, n. sp.

Black; elytra, legs, and antennae more or less obscurely reddish. Upper-surface sparsely clothed except for numerous conspicuous white spots; under-surface densely clothed with white pubescence, but with numerous glabrous spots.

⁽³²⁾ *Ante*, 1908, pp. 231-235.

⁽³³⁾ On *brunneus* also the clothing is sometimes quite regular on the suture, but that species is considerably wider than *suturalis*, and is otherwise different.

Head densely granulate-punctate. Rostrum lightly curved, slightly longer than prothorax, behind antennae slightly wider than in front of same; and with rather dense and coarse punctures becoming much smaller to apex. Antennae not very thin, third joint slightly shorter than first, the length of fourth, and about one-third longer than second, eleventh about twice the length of tenth. *Prothorax* about as long as wide, sides gently rounded, median line interrupted in middle; with numerous granules appearing through clothing. *Elytra* thin, very little wider than prothorax, almost parallel-sided to near apex, which is moderately produced, not elevated behind scutellum; with rather large close-set punctures, becoming granulate towards base. Front *femora* lightly dentate, the others edentate, hind ones just passing apex of first abdominal segment; basal joint of tarsi somewhat shorter than the two following combined. Length, $9\frac{1}{2}$ -10 mm.

Hab.—South Australia: Quorn (Blackburn's collection). Type, I. 7877.

With very sharply defined elytral spots, approaching those of some specimens of *anguineus*, but each of the four basal segments of abdomen with five conspicuous nude spots; the spots are much as on *parallelus* (= *serpens* and *abdominalis*), but it differs from that species in being slightly wider, each elytron with a sharply defined discal row of spots, and the sutural ones also much more conspicuous, the elytral punctures are also somewhat different. The upper-surface (except for the white markings) is sparsely clothed with stramineous pubescence, on the pronotum the sides are irregularly spotted, and there is a conspicuous interrupted median line, on the elytra the suture is very narrowly whitish almost throughout, and attached, or almost attached, to it are numerous conspicuous spots, each elytron has an irregular discal row of conspicuous spots, and a less conspicuous submarginal row; on the under-surface there are some irregular nude spots on the sterna, and a very conspicuous one on each metasternal episternum, on each of the four basal segments of abdomen there are five nude spots: a subtriangular one on each side of the base, one in middle of apex, and a circular subapical one half-way between the middle and each side. The femoral teeth are feeble but are traceable on the three specimens in the Museum (two of which are from the old collection, and without locality labels).

BELUS EXILIS, n. sp.

Piceous-brown, some parts black; front of prothorax, elytra, rostrum, and most of legs somewhat reddish.

Upper-surface sparsely, the under-surface moderately densely clothed with whitish pubescence.

Head densely granulate-punctate. Rostrum long, thin, lightly curved, shining, and with minute punctures, but becoming more distinct near base. Antennae thin and rather long, first joint about as long as second and third combined, second shorter but somewhat stouter than third, third and fourth equal, eleventh about once and one-half the length of tenth. *Prothorax* slightly longer than wide, median line narrow; densely granulate-punctate. *Elytra* very narrow, slightly wider than prothorax, slightly narrowed towards but scarcely produced at apex, suture not distinctly elevated at base; with closely-set punctures, somewhat larger towards base than elsewhere. Front *femora* rather long and lightly dentate, the others shorter and edentate, hind ones just passing tip of first abdominal segment, basal joint of tarsi almost as long as the two following combined. Length, 7 mm.

Hab.—New South Wales: Mittagong (A. M. Lea). Type (unique), I. 7884.

The abdomen is more sparsely clothed than on *acaciae*, and the sublateral spots are narrower and much less defined; the species also differs from *acaciae* (with which it might be associated in my table) in being narrower, pale clothing of elytra much sparser and confined to suture, rostrum distinctly longer, etc. The clothing of the under-surface, although not very dense, is almost uniform except for a narrow glabrous (but not very sharply defined) spot on each side of each of the four basal segments of abdomen, the metasternal episterna are very narrowly glabrous where they touch the elytra, but are without distinct nude spots; the head (except for a feeble ring around each eye) and pronotum (except for a feeble and partial median line) are almost glabrous, on the elytra the clothing consists of small and feeble spots, somewhat distantly placed along the suture. The elytral punctures are placed in almost regular rows, but the punctures in the rows, and the rows themselves, are so close together as to be practically touching.

BELUS ACUTIPENNIS, n. sp.

Piceous-brown; rostrum and legs somewhat paler. Sparsely clothed with whitish pubescence.

Head convex and densely granulate-punctate between eyes; finely punctate at base. Rostrum slightly longer than prothorax, thin, lightly curved, shining: at extreme base with fairly strong punctures, elsewhere with very small ones. Antennae rather long and thin, but five apical joints somewhat thickened, third slightly longer than first, distinctly longer

than fourth and twice the length of second, eleventh once and one-half the length of tenth. *Prothorax* almost as long as greatest width, which is near base, base not much wider than apex, sides feebly rounded; rather densely granulate. *Elytra* thin, slightly wider than prothorax, parallel-sided to near apex, which is strongly and acutely produced, suture scarcely elevated at base; densely punctate or granulate-punctate. Front *femora* rather long, very lightly dentate, the others shorter and edentate, hind pair just passing tip of first abdominal segment; basal joint of tarsi slightly longer than second and third combined. Length, 10 mm.

Hab.—New South Wales: Gosford (H. W. Cox). Type (unique), I. 7895.

In my table would be associated with *acrobeles*, from which it differs in being narrower, elytra much more acute at apex, antennae longer and thinner, etc. Structurally it is fairly close to *acanthopterus* and *edentulus*, but the rostrum is shorter, the prothorax is less transverse, and the clothing of the abdomen is very different. The clothing is fairly dense about the eyes, and the median line of the pronotum is feebly indicated, but elsewhere it is sparse although almost evenly distributed, even near the elytral suture it is not condensed into spots; the under-surface is evenly and rather sparsely clothed throughout, there being no naked spots, and the sides (even of the sterna) without denser clothing than in the middle.

BELUS PODAGROSUS, n. sp.

Piceous-brown; parts of legs and of rostrum more reddish. With stramineous pubescence feebly margining eyes, forming a feeble median line on pronotum, numerous spots conjoined to a narrow sutural stripe on the elytra, and dense on parts of the under-surface.

Head densely granulate-punctate, more coarsely between the eyes than elsewhere. Rostrum long, thin, and lightly curved; behind antennae with punctures as on base of head, in front shining, and with minute punctures. Antennae rather long and thin, first joint about as long as second and third combined, third distinctly longer than fourth, and about twice the length of second, eleventh twice the length of tenth. *Prothorax* slightly longer than its greatest width (which is near the base) sides moderately rounded, median line well-defined, except in front; with small dense granules. *Elytra* (for the genus) moderately wide, distinctly wider than prothorax, parallel-sided to near apex, which is strongly and acutely produced, suture feebly elevated at base; densely granulate-punctate. *Femora* dentate (the front pair

moderately, the others lightly), hind ones extending to about middle of second abdominal segment; basal joint of tarsi conspicuously inflated, concave on lower surface, almost as long as two following joints combined, and much wider than either. Length, 15 mm.

Hab.—South Australia: Murray Bridge. Type (unique), I. 7880.

The general outlines are much as on *bidentatus*, *centralis*, and *hemistictus*; the elytral markings are as on some specimens of *scalaris*, but it is wider than that species, and the second-fourth joints of antennae are very differently proportioned. In my table it would be associated with *sparsus*, but is wider, differently clothed, third joint of antennae very different, etc., I do not think it should be referred to D, of that table, as the pale elytral clothing, although confined to the suture, is distinctly spotted. On the under-surface the pubescence is rather dense on the sides, especially of the sterna, but there is a narrow nude space on each side of the metasternum, and a somewhat rounded nude spot on its episternum; on the abdomen the pubescence is sparse along the middle, and irregular about the sides, with a (not very sharply defined) nude spot on each side of each of the four basal segments. The basal joint of each tarsus is conspicuously inflated, more especially on the front pair.

BELUS VARIABILIS, n. sp.

Piceous-brown; some parts black, elytra paler but somewhat infuscated about suture, apical half of rostrum and parts of legs reddish. Irregularly clothed with whitish (in some places stramineous) pubescence.

Head densely granulate-punctate between eyes, with finer sculpture at base. Rostrum rather long, thin, and lightly curved; with rather coarse punctures behind antennae, in front shining and with small punctures. Antennae moderately long, third joint slightly longer than fourth, slightly shorter than first, and conspicuously longer and thinner than second, eleventh about twice as long as first. *Prothorax* moderately transverse, sides gently rounded, base not much wider than apex, median line well-defined, densely granulate. *Elytra* thin, very little wider than prothorax, parallel-sided to near apex, which is lightly produced, suture scarcely elevated at base; densely granulate-punctate. Front *femora* lightly dentate or edentate, the others shorter and edentate, hind pair just passing tip of first abdominal segment; basal joint of tarsi as long as the two following combined. Length, 8-9½ mm.

Hab.—South Australia: Lucindale (B. A. Feuerheerd). Type, I. 7885.

There are twenty specimens before me, but I cannot regard them as belonging to more than one variable species; the femoral dentition is usually very feeble, and is occasionally quite absent, but the dentition is similarly variable on several other species. Many specimens are rather close in general appearance to *acaciae* (with which the dentate specimens would be associated), and have very similar abdominal clothing (except that the nude spots are longer), but the rostrum of both sexes is conspicuously longer; the specimens with edentate femora, in my table, would be associated with *longicornis*, to which, however, they are not very close. The pubescence is fairly dense about the eyes, forms a conspicuous median line on the pronotum and is dense on the sides, and forms numerous irregular spots close to or conjoined with the suture, towards the sides the spots (often consisting of but two or three hairs) are smaller and much less conspicuous to the naked eye, on the sides of the sterna the pubescence is denser than elsewhere; there is a narrow nude space on each side of the metasternum where it joins the episternum (but the episternum itself is uniformly clothed, except that a very small narrow spot—usually concealed by the elytra—is sometimes visible); on each of the four basal segments of abdomen there is an elongated nude spot towards each side. On many specimens the median clothing of the pronotum is more stramineous than white, and it is occasionally interrupted in the middle. The male differs from the female in having slightly wider prothorax, slightly narrower elytra and conspicuously thinner front femora.

Two specimens (A), from Lucindale have the head and prothorax with whitish pubescence, rather thickly scattered about and the median clothing unusually dark and conspicuous. on the elytra the subsutural spots are larger and more confluent than usual, and the other spots are also unusually numerous, their metasternal episterna are uniformly clothed. Two other Lucindale specimens (B), agree with A, except that each metasternal episternum has a conspicuous nude spot; on one of them also the rostrum is almost black. A specimen (C), from Kilkerran (Blackburn's collection) is unusually small, and has the subsutural spots less numerous than usual. One (D), from Quorn (Blackburn's collection), has elytral clothing as on C, but each metasternal episternum with a conspicuous nude spot and the rostrum quite black. One (E), from Kangaroo Island, has a few spots touching the suture, but none towards the sides, a conspicuous nude spot on each metasternal episternum and the rostrum black. Another

(F), from Kangaroo Island (J. G. O. Tepper), has clothing as on A, except that there is a glabrous spot on each metasternal episternum, this specimen, however, has fairly strong teeth on the front femora (stronger than on any other specimen of the species before me). A specimen (G), from Murray Bridge (A. M. Lea), has clothing as on A, except that there is a considerably larger spot than usual on each elytron at its base, its rostrum is reddish, even at the base, and femoral dentition fairly strong.

BELUS ANGUSTATUS, n. sp.

Piceous-brown or black; apical half of rostrum, elytra and legs more or less reddish. With sparse whitish pubescence about eyes, forming a feeble median line on pronotum, and small conjoined spots on suture; each side of under-surface with a conspicuous white stripe from beneath the eye to apex of abdomen, rest of under-surface sparsely clothed; a nude spot on each metasternal episternum.

Head densely granulate-punctate between eyes, punctate about base. Rostrum rather long (quite as long as front femora), thin and lightly curved; behind antennae with punctures as on base of head, in front shining and with minute punctures. Antennae rather long and not very thin, third joint slightly shorter than first, slightly longer than fourth, and much longer than second, eleventh thrice the length of tenth. *Prothorax* distinctly shorter than its greatest width (which is near the base), sides rather strongly rounded, median line distinct only on basal half; somewhat asperately granulate-punctate. *Elytra* thin, except close to base no wider than widest part of prothorax, parallel-sided to near apex, which is lightly produced; closely granulate-punctate. *Femora* lightly dentate, hind pair not (or scarcely) passing apex of first abdominal segment; basal joint of tarsi about as long as two following combined. Length, 10-13½ mm.

Hab.—South Australia: Strathalbyn (Rev. A. P. Burgess), Port Lincoln (Blackburn's collection), Lucindale (B. A. Feuerheerd and A. M. Lea); Bull Island (E. A. Limbert), Mindarie; Western Australia (E. F. du Boulay). Type, I. 7883.

Of the specimens before me seven have antennae as described, on three others the eleventh joint is less cylindrical and but twice the length of the tenth; these specimens also have the front femora stouter, so presumably are females (one certainly is, as its ovipositor is protruding), the others being males. A specimen from New South Wales (Dorrig, W. Heron) is probably a male of this species, but its front femora are edentate, and suture very sparsely clothed. In general

appearance the species is close to *sparsus*, but is even more parallel-sided, femoral dentition much smaller (on one specimen from Port Lincoln it is practically absent) and terminal joint of antennae (both sexes) much longer; *filiformis* has very similar outlines, but the clothing and antennae are different; *difficilis* is also close, but has a shorter rostrum, antennae with apical joint much shorter, etc.; structurally it is fairly close to *pudicus*, but is very differently clothed. The dentate specimens in my table would be associated with *brunneus*, with which they have few details in common; the edentate ones with *edentulus*, *angustulus*, and *inconstans*, from which they differ in the sutural clothing and in the antennae. The elytral suture to the naked eye appears to be narrowly and almost uniformly clothed with whitish pubescence, but under a lens this is seen to consist of numerous more or less loosely conjoined spots, somewhat more widely distributed near the base than elsewhere (on an occasional specimen, however, the maculate appearance is less evident). As on many other species of the genus the elytra have some dark pubescence (fairly conspicuous on the outer apical margins), but it is very short and indistinct. There are numerous conspicuous granules on the sparsely clothed parts of the under-surface.

BELUS HALMATURINUS, n. sp.

Blackish; elytra, rostrum, antennae, and legs of a rather bright red. Moderately clothed with whitish and stramineous pubescence.

Head densely granulate-punctate between eyes, punctate about base. Rostrum moderately long, rather thin and lightly curved; behind antennae with punctures much as on base of head, in front shining and with small to minute punctures. Antennae inserted about one-third from base of rostrum, first joint almost as long as second and third combined, second thicker and just perceptibly longer than third, the latter slightly longer than fourth, fourth-tenth subequal in length, but after the sixth distinctly increasing in width, eleventh about once and one-half the length of tenth. *Prothorax* lightly transverse, sides rather strongly rounded, base very little wider than apex, median line not very deeply impressed; densely granulate-punctate. *Elytra* thin, not much wider than widest part of prothorax, parallel-sided to near apex, which is lightly produced, suture not elevated at base; with dense punctures, about base with a few granules. *Femora* edentate, hind pair extending to about middle of second abdominal segment; basal joint of tarsi much shorter than second and third combined. Length, 7-7½ mm.

Hab.—South Australia: Kangaroo Island. Type, I. 7894.

In size and sculpture close to *granicollis*, but very differently coloured and clothed. The pubescence is sparsely distributed over the upper-surface, but is fairly dense about the eyes, along the median line (except in middle) of pronotum, is dense on the scutellum, and forms feeble spots on the elytra, mostly near the suture; on the under-surface it is fairly dense, and there are no nude spots except a small one on each metasternal episternum. The antennae are inserted nearer the base of rostrum than is usual; the elytral punctures are very close together, and in places have a seriate arrangement.

BELUS LACUSTRIS, n. sp.

Black; claws obscurely reddish. Densely clothed with white pubescence.

Head densely granulate-punctate between eyes, punctate about base. Rostrum rather long, thin, and lightly curved; with rather coarse punctures behind antennae, shining, and with small punctures in front. Antennae not very thin, inserted about one-third from base of rostrum, first joint longer than second and third combined, second slightly stouter and just perceptibly longer than third, third-tenth equal in length, but after the sixth increasing in width, eleventh rather closely applied to and about once and one-half the length of tenth. *Prothorax* about as long as greatest width, sides strongly rounded, base slightly wider than apex, median line lightly impressed; with numerous small granules showing through clothing. *Elytra* (for the genus) not very narrow, scarcely wider than widest part of prothorax, parallel-sided to near apex, which is lightly produced, suture not elevated at base; with dense punctures and with numerous granules showing through clothing. *Femora* edentate; hind pair just passing apex of basal segment of abdomen; basal joint of tarsi no longer and but little wider than second. Length, 11½ mm.

Hab.—South Australia: Lake Callabonna (A. Zietz). Type, I. 7875.

Allied to *ursus*, but larger and darker, rostrum longer and clothing shorter (although still dense), and to the naked eye having a maculate appearance; in some respects it is close to *vetustus*, but is wider, with denser clothing and median line of pronotum less pronounced. The rostrum (except at base) and basal joint of antennae are glabrous; elsewhere the clothing is dense but somewhat maculate in appearance, owing to numerous granules showing through.

Two specimens (from the old collection and without locality labels) possibly belong to this species; they are of a

dingy red (the head and parts of the under-surface blackish), the clothing not quite so dense, and the elytra with numerous transverse series of stramineous spots of clothing; the interspaces between the spots are more sparsely clothed than on the type; but on the type the spots themselves are indicated, although they are quite as white as the rest of the clothing.

BELUS CYLINDRICUS, n. sp.

Black; parts of legs and of antennae obscurely reddish. Moderately (in places densely) clothed with white or whitish pubescence, rostrum glabrous. Length, $10\frac{1}{2}$ -11 mm.

Hab.—Western Australia: Cue and Lake Austin (H. W. Brown). Type I. 7876.

Structurally close to the preceding species, but narrower, rostrum slightly longer and more curved, fourth joint of antennae slightly longer than third and fifth, median channel of pronotum more distinct, each elytron rather more distinctly produced at base, their maculate appearance more evident, and punctures (due to the less even distribution of pubescence) much more conspicuous; on the preceding species all the joints of the antennae (after the first) are densely clothed, on the present species four or five of the basal joints are sparsely clothed. In my table it would be associated with *ampliocollis*, from which it is very different; its general appearance is strongly suggestive of some of the narrower species of *Lixus*. The pubescence causes the head to appear feebly trilineate; on the pronotum it forms a conspicuous (but interrupted) median line, and numerous lateral spots, on the elytra also it forms numerous spots, and these are in more or less oblique or transverse series, instead of in longitudinal ones, as on most species of the genus; the spots are all small and loosely formed and are frequently conjoined, the interspaces between the spots are loosely clothed; on the under-surface there is a small nude spot on each metasternal episternum, and a small one on each side of the base of each of the four basal segments of abdomen. On the type the whole of the pubescence is white, on a second specimen the spots on the elytra are mostly stramineous.

* BELUS FLOCCOSUS, n. sp.

Reddish-castaneous; parts of antennae and of tarsi darker, head black or blackish. Irregularly clothed (densely in places) with white, woolly-looking pubescence.

Head densely granulat punctate between eyes, at base punctate. Rostrum long, thin, and lightly curved; behind antennae with dense distinct punctures, in front polished and with minute punctures. Antennae long and thin, inserted

about one-fourth from base of rostrum, third joint about the length of first, distinctly longer than fourth, and fully twice the length of second, eleventh about once and one-fourth the length of tenth. *Prothorax* about as long as greatest width, sides strongly rounded, base not much wider than apex, median line lightly impressed; densely granulate. *Elytra* very thin, slightly wider than prothorax, parallel-sided to near apex, which is lightly produced, suture not elevated at base; densely punctate. *Femora* edentate, hind ones slightly passing apex of basal segment of abdomen; basal joint of tarsi as long as second and third combined. Length, 7-9 mm.

Hab.—Western Australia: Beverley (E. F. du Boulay); South Australia: Lucindale (B. A. Feuerheerdt, his No. 505). Type, I. 7891.

The clothing has a peculiarly loose flocculent appearance along the suture, which readily distinguishes the species from *variabilis*, the rostrum is also thinner and antennae longer than on that species; the clothing is very different to that of *longicornis* and *fliformis*, with which it would be associated in my table; in many respects it is close to *acaciae*, but the front femora are edentate; from *parallelus* it differs in having looser clothing, abdomen with nude spots only on sides, and rostrum, antennae, and basal joint of tarsi longer. The sexes differ in the width of prothorax and thickness of front femora. The rostrum (either entirely or with the base excepted) is of a brighter red than the other parts. The pubescence margins the eyes, but is sparse on the upper parts of the head, on the pronotum it forms a fairly distinct median line, but is dense on the sides, is dense on the scutellum, on the elytra it forms loosely compacted spots along the suture, and smaller and still looser ones elsewhere, with a few hairs scattered singly; on the under-surface it is dense, but somewhat sparser along the middle than on the sides; the metasternal episterna are uniformly clothed, but there is a fairly large nude spot on each side of each of the four basal segments of abdomen.

BELUS TRILINEALBUS, n. sp.

Black: rostrum, base of head, and parts of antennae and of legs more or less reddish. Clothed with white pubescence, mostly maculate in arrangement.

Head coarsely sculptured between eyes, less coarsely at base. Rostrum long, thin, and distinctly curved; behind antennae with rather coarse punctures, in front with smaller but quite conspicuous ones. Antennae moderately long, first joint about as long as second and third combined, third

scarcely longer than fourth, and about one-fourth longer than second, eleventh more than twice the length of tenth. *Prothorax* lightly transverse, sides strongly rounded, base much wider than apex, with a wide shallow median channel; with numerous conspicuous granules, the interspaces with dense but more or less concealed punctures. *Elytra* rather narrow, somewhat wider than prothorax, parallel-sided to near apex, which is strongly and acutely produced, suture not elevated at base; with dense and moderately large punctures, becoming granulate-punctate towards base. Front *femora* rather stout, edentate; hind pair not extending to middle of second segment; basal joint of tarsi much shorter than second and third combined. Length, 15-16 mm.

Hab.—Western Australia: Cue (H. W. Brown). Type, I. 7878.

A multinaculate species with acutely produced elytra, at first glance like densely clothed *puncticeps*, but femora edentate on the four specimens before me; the elytra are more produced at apex and with much more numerous spots than on *anguineus*; in some respects close to *helmsi* and *bison*, but narrower, elytra more produced at apex, with discal spots and granules more numerous and head with three white lines instead of two; in general appearance strikingly close to *cristatus*, but head trilineate and elytra not carinate: in my table would be associated with *edentulus*, but it is much wider and is otherwise very different to that species. The apex of the prothorax, and the sides near apex of elytra on two of the specimens are obscurely diluted with red. The upper-surface of the head is sparsely clothed, but the pubescence forms a moderately distinct median line and conspicuously margins the eyes, giving the head a trilineate appearance; on the pronotum not many hairs are scattered singly, but there is a conspicuous interrupted median line and numerous spots on the sides; on the elytra there are numerous small and very small spots, denser about the suture than elsewhere (the tips only have fairly dense blackish pubescence); the under-surface is rather densely clothed, but has a spotted appearance owing to numerous granules showing; there are two nude spots (the hind one of which is sometimes indistinct) on each metasternal episternum; the clothing of the abdomen is irregular along the middle (not quite as on *anguineus* and *scalaris*), and each of the four basal segments has a nude spot on each side of the base. The punctures on the apical half of the rostrum, although considerably smaller than on the basal half, are decidedly larger there than is usual in the genus; the elytra pass the abdomen for more than the length of the apical segment.

BELUS ORTHODOXUS, n. sp.

Piceous-brown; rostrum (and sometimes the elytra and appendages) paler. Upper-surface with sparse stramineous pubescence except for a conspicuous line on suture, under-surface densely but somewhat irregularly clothed.

Head with crowded and fairly large punctures between eyes, becoming smaller about base. Rostrum moderately long, thin, and lightly curved; about base with rather coarse but partially-concealed punctures, elsewhere shining and with small but distinct punctures. Antennae moderately long, first joint about as long as second and third combined, third distinctly longer than fourth and second, these equal in length, but second slightly stouter than fourth, eleventh almost twice the length of tenth. *Prothorax* lightly transverse, sides moderately rounded, base distinctly wider than apex, median line shallow but well-defined: densely granulate-punctate. *Elytra* rather thin, slightly wider than prothorax, parallel-sided to near apex, which is moderately produced, suture not distinctly elevated at base; with dense punctures, about base with granules. *Femora* edentate, front ones stout, hind ones just passing basal segment of abdomen; basal joint of tarsi distinctly shorter than second and third combined. Length, 11-13 mm.

Hab.—South Australia: Mount Lofty (S. H. Curnow). Type, I. 7887.

Structurally close to *vetustus* and *brevipes*, but very differently clothed, and otherwise different, although the suture is conspicuously clothed throughout the pubescence is not confined to it, as on *suturalis* and its allies, but there are pale hairs scattered about elsewhere and especially about the base. In my table some specimens would be associated with *brevipes*, but others have the elytra no paler than the prothorax and these would be referred to *M. e.*, but they are considerably larger and otherwise different to *inconstans*. On some specimens, but not on others, the elytra distinctly pass the abdomen for more than the length of the apical segment, but the variations appear to be due to irregular contraction. The eyes are moderately ringed, but the rest of the upper parts of the head are sparsely clothed, there is a fairly distinct median line of clothing on the pronotum, on the elytra the suture is conspicuously clothed throughout, but under a lens the pubescence has a somewhat maculate appearance, especially towards the base, about which there are a few small scattered spots; on the rest of the elytra the derm is glabrous or with a few hairs scattered singly; on the under-surface there is a dense stripe on each side from beneath the eye to tip of

abdomen, with a small nude spot on the metasternal episternum; the abdomen is moderately clothed along the middle, but the derm is obliquely glabrous just before the stripe on each side, there are no nude spots on the sides themselves. The punctures between the eyes are deep and round, with their walls not broken up into granules.

BELUS VILLOSUS, n. sp.

Black; tibiae and claws more or less obscurely reddish. Clothed (in places densely) with white pubescence, and in addition with numerous long hairs.

Head with coarse, partially concealed punctures between eyes, becoming smaller but more distinct about base. Rostrum scarcely longer than prothorax, rather thin and distinctly curved; behind antennae with coarse crowded punctures, in front shining and with rather small but conspicuous ones. Antennae inserted in middle of rostrum, not very thin and decidedly thickened to apex, first joint almost as long as second and third combined, second and fourth subequal in length and each slightly shorter than third, eleventh about once and one-third the length of tenth. *Prothorax* about as long as greatest width, sides strongly rounded, extreme base not much wider than apex, median line well-defined; densely granulate. *Elytra* thin, not much wider than prothorax, parallel-sided to near apex, which is but lightly produced, suture not elevated at base; with dense strong punctures, about base with a few granules. *Femora* edentate, hind pair just passing basal segment of abdomen; basal joint of tarsi somewhat inflated and distinctly shorter than the two following ones combined. Length, $9\frac{1}{2}$ -11 mm.

Hab.—Western Australia: Cue (H. W. Brown); South Australia: Quorn (Blackburn's collection). Type, I. 7889.

With many long straggling hairs as on most specimens of *filiiformis*, but otherwise very different to that species; in general appearance it is somewhat like large specimens of *granicollis*, but with even looser clothing, head trilineate, abdominal spots different, etc., also like *niveopilosus*, but smaller, rostrum shorter, antennae inserted further from the base, prothorax less transverse, and clothing of head and abdomen different. In my table would be associated with *amplicollis*, which is a considerably larger species, with very different prothorax. On one of the Quorn specimens the elytra are obscurely reddish, and the tibiae brightly coloured. The white pubescence margins the eyes, and forms a fairly distinct median line on the head, on the pronotum it forms a distinct (and sometimes interrupted) median line and numerous spots

on the sides, on the elytra it is mostly condensed into small spots conjoined to the suture, but there are a few small spots scattered about the base, and forming a feeble discal row on each elytron; on the under-surface the pubescence is mostly dense, but there is a nude spot towards each side of the four basal segments of abdomen; the abdomen along the middle, however, is very irregularly clothed and some specimens appear to have four or five nude spots on most of the segments (approaching the clothing of *anguineus* and *scalaris*). The long hairs are numerous between the eyes and on the base of rostrum, on the sides of prothorax, and on the under-surface and legs.

PACHYURA QUADRIMACULATA, n. sp.

Reddish-castaneous; head (but not rostrum) and most of prothorax somewhat blackish. Most of under-surface and sides of prothorax with dense, stramineous pubescence; pubescence rather conspicuously margining eyes, forming a narrow median line on pronotum, fairly dense on medio-basal portion of elytra, and forming four very conspicuous circular spots across middle, elsewhere more sparsely clothed.

Head with crowded and rather coarse punctures. Eyes large and round. Rostrum rather short (about as long as width of head across eyes), at base with punctures as on head, elsewhere shining, glabrous, and with minute punctures, two small acute projections at apex. Antennae rather stout, third joint the length of first, much longer than second and slightly longer than fourth. *Prothorax* lightly transverse, sides moderately rounded, base strongly bisinuate and conspicuously wider than apex (which is truncate), median line shallow; densely granulate-punctate. *Elytra* distinctly wider than prothorax, lightly notched by scutellum, each strongly produced at base, parallel-sided to near apex, which is obtusely pointed; densely granulate-punctate. *Femora* not very stout, edentate, hind pair almost extending to apex of second abdominal segment. Length, 7 mm.

Hab.—Victoria (Blackburn's collection). Type (unique), I. 7870.

Allied to *minima*, *fasciata*, and *pyriatra*, but readily distinguished by the transverse series of four spots, of these the outer ones are slightly smaller and slightly posterior to the others. Both antennae of the type are damaged, with the eleventh joint missing.

PACHYURA BREVIROSTRIS, n. sp.

Of a rather dingy pale castaneous; head darker, rostrum black and shining. Rather sparsely clothed with stramineous

pubescence, but becoming dense on middle of base of prothorax, and on the sides of under-surface, especially of the sterna, but metasternal episternum with a conspicuous glabrous spot.

Head rather wide; with moderately large, deep, well-defined punctures, with a narrow median line, and a narrow line near each eye, these large and prominent. Rostrum scarcely as long as width of head across eyes, with two sharp projections at tip; base with punctures much as on head, elsewhere polished and with small punctures. Antennae moderately long, seven basal joints thin, the others considerably wider, second joint the length of fourth, slightly shorter than first, and much shorter than third, eleventh about once and one-fourth the length of tenth. *Prothorax* rather strongly transverse, sides moderately rounded, base strongly bisinuate and conspicuously wider than apex, which is truncate, median line narrow in front, interrupted in middle and rather deep at base; with sharply defined punctures near middle of base, but granulate-punctate elsewhere. *Scutellum* short and strongly transverse, conspicuously cutting into bases of elytra. *Elytra* distinctly wider than prothorax, shoulders strongly rounded, sides almost parallel to beyond the middle, apices conjointly acutely produced; with close series of small, deep punctures, the interstices granulate; a conspicuous shining elevated line near the middle of each elytron, from about the basal fifth to about the apical fifth, each side dilated adjacent to metasternum, and with a marginal row of granules. *Legs* rather stout; femora edentate, hind pair passing apex of second abdominal segment; tibiae lightly denticulate on lower surface; basal joint of tarsi slightly longer than second and third combined, and distinctly longer than claw-joint. Length, 8 mm.

Hab.—New South Wales: Dorrigo (W. Heron). Type (unique), I. 7873.

I think it improbable that this species will be allowed to remain in *Pachyura*, but short of proposing a new genus for its reception, that is the only one to which it can be referred at present. In my table of genera of the subfamily⁽³⁴⁾ the species would be associated with *Agnesiotis*, to which it is not at all close; in that table *Pachyura* is placed with the genera having the elytra trisinuate at base, this is usually but not always the case; the present species has the elytra acute at the apex, but the tip of its rostrum is much as on the preceding species, which also has the elytra (although otherwise very different) somewhat similar at the base. The rostrum is

(34) Wytzman's Gen. Insect. Fasc., 91, pp. 2, 3.

conspicuously shorter than on any previously described species of the subfamily, and the claw joint is also shorter (but this may be sexually variable). The sides of the abdomen are somewhat shrunken, probably indicating immaturity of the type, but the species is such a distinct one that I have not hesitated to describe it.

RHINOTIA HAEMOPTERA, Kirby, Parachilna.

HAPLONYX (AOLLES) ORBICULATUS, Lea.

A single specimen, apparently belonging to this species, was taken at Ooldea, but with the circular dark patch on the elytra less well-defined than on the type, owing to the intrusion of numerous whitish scales on the apical slope; many of the pale scales elsewhere also have a rusty appearance.

H. MYRRHATUS, Pasc., Orroroo.

DIETHUSA MOLLIS, Lea, Parachilna.

D. SQUAMIVARIA, Lea, Orroroo, Parachilna.

MELANTERIUS HYBRIDUS, Lea, Birkett's Woolshed.

M. SOLITUS, Lea, Strzelecki Creek.

M. TRISTIS, Lea, Orroroo.

ELAEAGNA SQUAMIBUNDA, Pasc., Cooper Creek, Lakes Crossing.

ANTHRIBIDAE.

ARAEOCERUS LINDENSIS, Blackb., Ooldea.

ECELONERUS SUBFASCIATUS, Fhs., Ooldea.

BRUCHIDAE.

BRUCHUS LYNDBURSTENSIS, Blackb., Parachilna.

CERAMBYCIDAE.

EURYNASSA ODEWAHNII, Pasc., Ooldea.

E. STIGMOSUM, Newm., Ooldea.

MACROTOMA EDULIS, Newm., Ooldea.

XYSTROCERA VIRESCENS, Newm., Parachilna.

PACHYDISSUS BOOPS, Blackb., Ooldea, Parachilna (pl. xxxvi., fig. 81).

P. PICIPENNIS, Germ., Parachilna (pl. xxxvi., figs. 82, 83).

PHORACANTHA POSTICALIS, Blackb., Ooldea (pl. xxxvi., fig. 85).

P. QUINARIA, Newm., Parachilna.

P. SENIO, Newm., Carraweena, Ooldea.

APHANASIMUM ALBOPILOSUM, n. sp.

Pl. xxxvi., figs. 86, 87.

♂. Black or blackish; antennae, legs, and elytra with flavous markings. Rather densely clothed with whitish pubescence, sparser on elytra (but still fairly dense) than elsewhere; in addition with sparse, suberect, and usually darker hairs scattered about.

Head with crowded and small punctures, normally concealed except at base. Eyes large and coarsely faceted. Antennae long and thin, at least three joints passing elytra, first joint moderately stout and with dense punctures, second small, third and fourth subequal, fifth-tenth slightly longer, flatter, and acute (but not spinose) on one side at apex, eleventh slightly longer and thinner than tenth. *Prothorax* lightly transverse, with two small tubercles on each side, and five very feeble ones on disc; with crowded and small punctures, mostly concealed. *Elytra* distinctly wider than prothorax, widest across shoulders; with moderately dense and sharply defined, but rather small punctures, becoming very small and shallow posteriorly; each with two feeble longitudinal elevations on disc. Four hind *femora* with dense pubescence filling a groove along under-surface of each. Length, 13-14 mm.

Hab.—South Australia: Cooper Creek. Type, I. 7630.

In general appearance close to *variegatum*, but the clothing on the upper-surface conspicuously whitish (dark on that species), and much denser, especially on the prothorax and scutellum; prothorax with only two tubercles on each side (the front one of these is round and shining, the other subconical but not acute), the five discal ones (two in front and three behind) tending to obliteration, and with much smaller and denser punctures, under-surface uniformly dark and elytral markings not quite the same: on *variegatum* there is a curved dark mark, from each shoulder, that does not quite reach the suture, on the present species the curved mark is much wider and extends to the suture (this is dark throughout) both along the base and at about the basal fourth (thus enclosing a pale spot near each side of the scutellum): there is an angular median fascia connected with the suture and the apical fourth is dark; each tibia is flavous near the base, and the base of the third joint of antennae is pale; on a second male the dark median fascia is extended to the sides and narrowly connected along them with the apical blotch, thus enclosing an oblique flavous mark on each elytron, the fourth joint of the antennae as well as the third is also flavous near the base.

ANATISIS LAMINOSUS, Newm., Ooldea.
 APOSITES LANATICOLLIS, Blackb., Kingunyah.
 URACANTHUS ALBATUS, Lea, Leigh Creek.
 U. ATER, Lea, Ooldea.
 PEMPSAMACRA DISPERSA, Newm., Parachilna.
 ANCITA FASCICULATA, Blackb., Ooldea.
 A. VARICORNIS, Germ., Orroroo, Parachilna.
 SYMPHYLETES FUMATUS, Pasc., Clayton Creek.

PENTHEA PARDALIS, Newm.

Pl. xxxvi., fig. 84.

The specimen figured represents a slight variety of the species commonly labelled as *pardalis* in Australian collections; but the original description would fit many species of the genus. Ooldea.

P. PICTA, Pasc., Ooldea.

MICROTRAGUS.

In Group III. *Parmenides*, *Microtragus*, and its close allies are thus dealt with by Lacordaire ⁽³⁵⁾:—

Antennes rapprochées à leur base.

Dernier art. de tous les palpes ou des max. seuls

triangulaire *Stychus*

Dernier art. des palpes normal; prothorax
tuberculé sur les côtés.

Elytres ovalaires, arrondies en arrière ... *Microtragus*

Elytres très-atténuées et épineuses ... *Ceroegidion*

Antennes plus ou moins distantes à leur base ... *Athemistus*

No doubt he had but few species and specimens under examination, as the character noted for *Stychus* is a sexual one, the male having the apical joint of each palpus considerably dilated to the apex, so as to be triangular; this is also the case with *M. mormon*, and in several other species of *Microtragus*, and in all the species of that genus before me (where I can be certain of the sexes) the apical joint is more or less variable sexually; *Stychus*, therefore, cannot be maintained, as it was proposed solely upon this character, the species, *amycteroides*, having been previously correctly referred to *Microtragus*. Nor is the rounding of the apex of the elytra to be relied upon, as on several species the apices are conspicuously produced (although far from being spine-like as on *Ceroegidion*). The main character of the table is also unreliable, as in *Athemistus howitti* the antennae are much closer together than in other species of *Athemistus*, and more like those of *Microtragus*; *Athemistus*, however, is otherwise distinct.

(35) Gen. Coleopt., ix., p. 263.

I do not know *eremitus* and *waterhousei*, but the others may be tabled as follows:—

- | | | |
|-----|--|------------------------|
| A. | Prothorax impunctate along middle ⁽³⁶⁾ ... | <i>mormon</i> |
| AA. | Prothorax with punctures along middle. | |
| B. | Each elytron with two rows of isolated tubercles. | |
| a. | Each elytron with two large tubercles at base | <i>basalis</i> |
| aa. | Each elytron with but one large tubercle at base. | |
| b. | A conspicuous spot of pale clothing near each shoulder | <i>quadrifasciatus</i> |
| bb. | Elytra not maculate | <i>luctuosus</i> |
| BB. | Each elytron with two longitudinal costae. ⁽³⁷⁾ | |
| C. | Prothorax with two small conical tubercles on disc, as well as a large one on each side | <i>bifasciatus</i> |
| CC. | Prothorax without conical tubercles on disc. | |
| D. | Black spots on elytra all small and isolated | <i>arachne</i> |
| DD. | Black spots often conjoined to form large irregular blotches | <i>senex</i> |

MICROTRAGUS LUCTOSUS, Shuck. (*Morimus*).

M. amycteroides, Pasc. (*Stychus* of Lacordaire).

M. pascoei, Thoms.

In Lacordaire's Atlas two species are figured on plate 96 under the specific name of *amycteroides*:—

Stychus amycteroides, Pasc., fig. 4, from Australia,

Phantasis amycteroides, Pasc., fig. 5, from Africa;

but the references to the figures are transposed, as figure 5 is quite evidently of the Australian beetle, it having but two rows of tubercles on each elytron (Pascoe says "*tuberculorum seriebus duabus*," and again, "each with two rows of stout prominent tubercles"), not at least three, as on the other figure.

The description of *Morimus luctuosus* agrees well with the specimens before me, and I have no doubt but that it is synonymous with *amycteroides*, of which it has precedence. It was recorded as from Tasmania by Shuckard, but the locality was queried in Master's Catalogue. I have only seen

(36) On the variety *sticticus* of *arachne* the punctures along the middle of the pronotum are not actually visible, but their positions are indicated through the clothing.

(37) The costae, owing to their clothing, frequently have an appearance as of being broken up into tubercles, but even when a few are divided off, they are connected with the costae by lower ridges.

specimens from Southern Queensland, and believe the locality Tasmania to have been given in error.

MICROTRAGUS QUADRIMACULATUS, Blackb.

A specimen from the Coen River (Queensland) agrees with the description of this species; it resembles the preceding species, but differs in being very much smaller, with the rows of tubercles continued to much nearer the apex of elytra, the prothorax less coarsely sculptured on the disc, and the elytra with four large pale spots; as the apical joint of each palpus is rather thin the specimen is probably a female.

MICROTRAGUS SENEX, White.

Var. *M. junctus*, Blackb.

M. maculatus, Blackb.

M. albidus, Blackb.

Of twenty-nine specimens before me the elytral markings are not exactly the same on any two, and they are not exactly the same on the two sides of any individual; but there is frequently (in addition to other markings) a large black blotch on each side near the base, and an irregular one on the suture posteriorly, and such specimens agree well with the figure of the type; but occasionally the markings are extended over most of the surface, and are but brown and black, instead of white, brown, and black. It varies greatly in size also (10-20 mm.). On the male the apical joint of each palpus is distinctly wider than on the female, but it is not triangularly dilated as on the males of *luctuosus* and *mormon*; the sexes, however, may be readily distinguished by the hind coxae, on the male (only) each of these at its inner angle has a short upright tubercle, usually rather compressed and sharply pointed, but occasionally shorter and subconical.

Junctus appears to be a variety of *senex*, having a somewhat narrower body, markings more diffused and elytra with longer and more sinuous costae; although described as having the costae joined posteriorly (and named *junctus*) a specimen labelled by Blackburn as *junctus* certainly has not the costae joined posteriorly, although they are fairly close to each other at their tips. The type of *maculatus* appears also to have been one of the many varieties of *senex*, it is now in the British Museum, but the specimen identified as *maculatus* from the Elder Expedition is before me, and belongs to *senex*: the costae on the elytra are rather more pronounced and more sinuous than on the western forms, but there are connecting specimens before me. Structurally two specimens labelled by

Blackburn as *junctus* and *maculatus* respectively, are in perfect agreement.

The type of *albidus* is in the British Museum, and it seems probable that it was also described from a form of *senex*; the longitudinal impression on the head of that species appears to vary with the condition of the pubescence, and the humeral tubercles are also variable to a certain extent. But I have seen no specimen of the genus agreeing with the following details:—"When closely examined this species appears to be rather closely sprinkled all over with minute snowy-white spots, such spots consisting of single white scales interspersed with the darker ones."

The locality of the type of *senex* was unknown, but the specimens before me are from North-western Australia (Roebuck Bay and Derby), Northern Territory (Tennant Creek, McDonnell Ranges, and Finke River) and South Australia (North-western interior and Ooldea).

MICROTRAGUS ARACHNE, Pasc.

Var. *M. sticticus*, Pasc.

There are numerous specimens before me from Western Australia (Geraldton, Fortescue River, and Cue) and Queensland (Dalby) that I refer to this species, which I consider somewhat doubtfully distinct from *senex*, as its general structure (including the sexual differences of the palpi and hind coxae) is practically the same; but it may be distinguished by the black spots on the elytra being always isolated and usually rounded, the long hairs on the upper-surface are also more numerous. Although none of the specimens in the Museum could be said to have the elytral clothing "pale lemon-yellow," it is decidedly yellowish on some of them, but on the majority it is of a more or less dingy-brown, in places shading off to whitish grey; but even on the very dark specimens the black spots are conspicuous.

Mr. H. W. Brown has taken at Lake Austin and Southern Cross (in Western Australia) numerous specimens that have the pubescence almost uniformly greyish-white, the setae white except on the antennae, tarsi, and part of the tibiae, and the longer hairs dark and numerous; the dark spots on the elytra are smaller and much less conspicuous than on the typical form, and are sometimes more of a reddish-brown than black. On some specimens the numerous setae (not the hairs) on the elytra are conspicuously paler than the depressed pubescence, but this is due to the latter appearing darker through the infiltration of grease; such specimens to a certain extent agree with Blackburn's quoted

remarks on *albidus*, but on all of them the longitudinal impression on the head is distinct only between and adjacent to the antennary sockets. A male from Cooper Creek with the coxal armature very light, is very densely clothed all over with white pubescence, closely applied to the derm, in addition with numerous rather short suberect setae (dark on the pronotum and antennae, pale elsewhere), and over all with long and fairly numerous erect dark hairs; on the elytra the blackish spots are as on the typical form; the clothing in general also (except as to its colour) is as on that form; the large basal tubercles are more obtuse than usual.

Pascoe in describing *sticticus*, thought it was probably a variety of *arachne*, and I am convinced that such is the case; Blackburn identified a specimen from Narrabri (New South Wales) as belonging to it, there was another in his collection from Queensland, and I have seen two others from Queensland that agree with these; they are all males, with the conspicuous coxal armature of the male of *arachne*. The disc of the pronotum is much more densely clothed than on the typical form, thus obscuring the punctures, but I can find no structural differences. Some specimens from the Daly River, Darwin, and Wyndham, are smaller ($8\frac{1}{2}$ - $11\frac{1}{2}$ mm.) than usual, the elytral spots 'feebly defined and a vague fascia connecting the prothoracic tubercles across the disc; the pubescence on the pronotum is denser than on most specimens of *arachne*, but not so dense as on the variety *sticticus*.

MICROTRAGUS MORMON, Pasc.

M. assimilis, Blackb.

On this species the sexual differences of the palpi are quite as pronounced as on *luctuosus*; the pronotum has an impunctate space along the middle, but on the basal half there is a distinct groove. The length varies from 16 to 25 mm.

The type of *assimilis* is now in the British Museum, no other specimen was in the Blackburn collection, nor was *mormon* represented there; but I am convinced that *assimilis* was described from a female of *mormon*; there are several specimens in the South Australian Museum that agree well with Blackburn's description, and although Pascoe made no mention of the lateral granules of the elytra, these are sometimes but little in evidence. Blackburn considered that *assimilis* differed from *mormon* "by the absence of hairs" (but Pascoe did not mention any such), and by the apex of elytra, but the tips of these are variable.

Two specimens in the Museum differ considerably from the ordinary form; one, A, is a female from Kuminin (it is

the only specimen I have seen from Western Australia) and has the inner carina on each elytron shorter and more obtuse than usual, and the outer one scarcely serrated. The other, B, is a male from Mindarie, and has the prothorax wider and more coarsely sculptured than usual (but with the impunctate median space and longitudinal groove of the typical form), the elytra with the inner costa on each strongly serrated, and the outer one broken up into tubercles (much as on *luctuosus*), the apex is strongly notched, with the tips appearing as oblique triangular flanges⁽³⁸⁾. The other specimens before me are from Ardrossan, Corny Point, Crecy, Karoonda, Ooldea, Pinnaroo, and Pungonda in South Australia, and Birchip and Sea Lake in Victoria.

MICROTRAGUS BIFASCIATUS, n. sp.

Black; with dense, variegated clothing.

Head with large punctures traceable through clothing, longitudinal impression distinct only between antennary sockets. Antennae rather short and stout. *Prothorax* strongly convex, slightly longer than wide; with a strong conical tubercle on each side, and a smaller one on each side of middle (these slightly closer to the lateral ones than to each other); with dense, large, round, deep punctures, partially obscured in middle. *Scutellum* small and transverse. *Elytra* elliptic-ovate, conjointly rounded at apex, each with a large suberect subconical tubercle in middle of base, and each with two rather obtuse costae, terminating slightly beyond the post-median fascia; sides with larger punctures than on prothorax, but smaller towards suture, and still smaller posteriorly. Length, $9\frac{1}{2}$ -11 mm.

Hab.—Queensland: Cairns district (E. Allen and F. P. Dodd). Type, I. 7806.

Readily distinguished from all others of the genus by the bifasciate elytra, and dense long hairs. The pubescence is dense all over and is mostly black, but whitish on parts of the legs; on the elytra there are two conspicuous white fasciae: one close to the base crossing the suture but not touching the sides, the other just beyond the middle, not crossing the suture and not touching the sides, beyond it the pubescence is conspicuously brownish; over all there are dense, long, and usually dark-brown hairs. The sexes may be readily distinguished by the palpi, on the male the apical joint of each of these is rather long, subovate, and the tip widely truncated: the maxillary ones each with a shallow

(38) In some respects this specimen agrees with the description of *waterhousei*.

fovea on the upper-surface; on the female the maxillary palpi are not foveate, and all have the apical joint decidedly narrower and scarcely more than half the width of those of the male at the tip.

MICROTRAGUS BASALIS, n. sp.

Black; closely covered with short, muddy-brown pubescence; in addition with a few long dark hairs.

Head with large punctures, longitudinal impression distinct only between antennary sockets. Antennae rather stout and not very long. *Prothorax* slightly longer than wide, with a stout subconical tubercle on each side and some vague swellings on disc; with large, round, deep punctures, everywhere distinct. *Scutellum* inconspicuous. *Elytra* elliptic-ovate, feebly notched at apex; each with two conspicuous rows of tubercles, the inner commencing with a large subconical one at base, and ending on summit of apical slope, the other commencing near base, and ending on the slope, in addition there is at the base on each side another large tubercle; with large punctures on sides, becoming smaller towards suture and posteriorly, but everywhere distinct. Length, 7 mm.

Hab.—Queensland: Mackay (Blackburn's collection from R. E. Turner). Type (unique), I. 7807.

Allied to *quadrifasciatus*, but smaller, non-maculate, elytra with four large tubercles at base, etc. As the apical joint of each palpus is subtriangular, and widely truncated at the apex, the type is certainly a male. The pubescence on the legs is partly whitish, the long hairs are fairly numerous on the face and pronotum, but on the elytra they are confined to the vicinity of the tubercles.

CHRYSOMELIDAE.

DITROPIDUS GYMNOPTERUS, n. sp.

Bronzy or coppery-bronze; legs (in parts infuscated), antennae (from one to five apical joints infuscated), palpi, and labrum testaceo-flavous. Moderately densely clothed with depressed, white pubescence; the elytra glabrous.

Head flat between eyes; with small, partially concealed punctures. *Prothorax* about twice as wide as the median length, base strongly bisinuate; punctures more or less concealed. *Scutellum* small, its apex rounded. *Elytra* lightly narrowed posteriorly; with distinct but not very large punctures in light striae, the interstices (except the shoulders) shagreened throughout. Length, $2\frac{1}{2}$ -3 mm.

Hab.—South Australia: Parachilna. Type, I. 8206.

A suboblong, metallic species, apparently allied to *hirticollis*, but differing from description in the elytra and scutellum; it is about the length of *pubicollis*, but is narrower, pubescence denser, elytra conspicuously shagreened, etc.; *whitei* is larger, with sparser pubescence, legs differently coloured and elytra differently sculptured. The pygidium on some specimens appears to have a median line, but this is due to the pubescence.

DITROPIDUS DAVISI, Saund.

A specimen of this species with the head entirely pale was taken at Ooldea.

D. CANESCENS, Chp., Parachilna.

D. CUNEATUS, Chp., Ooldea, Parachilna.

D. LENTULUS, Chp., Parachilna.

D. PUBICOLLIS, Chp., Parachilna.

D. WHITEI, Lea, Ooldea.

ELAPHODES VULPINUS, Chp., Ooldea.

RHYPARIDA VAGANS, Lea, Ooldea.

PAROPSIS AENEIPENNIS, Chp., Ooldea.

P. HEMISPHAERICA, Chp., var. GLOBOSA, Blackb., Cooper Creek, Lakes Crossing.

P. HERA, Stal., Ooldea.

P. MOROSA, Blackb., Ooldea.

CHRYSOMELA FULVILABRIS, Germ., Cooper Creek, Koperamanna, Ooldea, Strzelecki Creek.

C. JANSONI, Baly., Cooper Creek.

PHYLLOTRETA AUSTRALIS, Blackb., Ooldea.

PSYLLIODES ARIDA, n. sp.

Dark brassy-green; under-surface piceous-brown, elytra and legs flavous with a more or less brassy-green gloss, antennae flavous, from one to five apical joints infuscated.

Head with coarse and rather dense punctures, becoming much smaller and sparser on clypeus. Antennae ten-jointed, first joint about as long as second and third combined, second slightly longer than third. *Prothorax* almost twice as wide as the median length, sides narrowly margined and with a slight apical projection; punctures rather crowded and sharply defined, but smaller than on head; with a feeble median line. *Elytra* with well-defined rows of moderately large punctures in feeble striae; the interstices with minute punctures. Hind *femora* very stout, about twice as long as greatest width; hind tibiae tridentate on each upper edge, and with an apical spur; basal joint of hind tarsi as long as the rest combined. Length, $2\frac{3}{4}$ -3 mm.

Hab.—South Australia: Ooldea. Type, I. 5227.

Readily distinguished from all previously described Australian species of the genus by its elytra much paler than the prothorax. On most of the specimens the hind femora are rather deeply infuscated in the middle. Nine specimens were taken at Ooldea by Capt. White; a specimen in rather poor condition, apparently belonging to this species, was taken between Karoonda and Peebinga by Mr. G. E. H. Wright.

MEGAMERUS.

The sexual differences in this genus vary considerably with the species. On the male of *Kingi* the apical joint of each palpus is considerably dilated to the apex (subtriangular), with the apex obliquely truncated and hollow; the basal segment of its abdomen is shallowly grooved along the middle, and the groove has denser clothing than on the adjacent parts (on one male before me, however, the basal segment is not grooved, and is but little less convex than on the female), and the apical segment is feebly depressed in the middle. On the female the apical joint of each palpus is much less dilated ⁽³⁹⁾ (subelliptic), the basal segment of the abdomen is strongly convex along the middle, and the apical segment is nowhere depressed. The species varies considerably in size ($8\frac{1}{2}$ - $10\frac{1}{2}$ mm.), and some specimens are more rugose than others. It appears to be confined to Queensland, and has the hind tibiae much more acutely produced at the outer apex than all the other species here dealt with.

The type ⁽⁴⁰⁾ of *mandibularis* is a male, with the apical joint of each palpus even more dilated than on the male of *Kingi*; the apical half of each mandible is highly polished, subelliptic in shape, and deeper than wide; it appears to be scooped out where it slopes upwards to the basal half; the basal segment of the abdomen is vaguely depressed along the middle, but is without special clothing there.

Two new species are here described; but I am also acquainted with two others, of which one is very small ($10\frac{1}{2}$ mm.) and represented by a single female from Queensland in the National Museum; of the other there are two females in the South Australian Museum from Derby and Menzies (the specimen from the latter locality is 33 mm., larger than any species of the family as yet recorded from Australia); the larger species has mandibles much as on *mandibularis* and

⁽³⁹⁾ Jacoby, in Wytsman's Gen. Insect. Fasc., xvi., p. 2, assumed the shape of the apical joint of the palpi to be constant, but it is liable to both sexual and specific variation.

⁽⁴⁰⁾ We are indebted to Mr. Kershaw, of the National Museum, for a loan of the type.

femoralis, but the elytra even more rugose (strongly vermiculate) than on *ventralis*.

The described species may be thus tabulated:—

Mandibles much deeper than wide on apical half.

Brown and front femora of male simple ... *mandibularis*

Black and front femora of male carinated ... *femoralis*

Mandibles wider than deep on apical half.

Male with a conspicuous pad on basal segment

of abdomen ... *ventralis*

Male without such a pad ... *Kingi*

MEGAMERUS VENTRALIS, n. sp.

♂. Black and shining. Under-surface with moderately dense stramineous pubescence, becoming condensed into a conspicuous pad on middle of basal segment of abdomen; a few long hairs about eyes, upper-lip with a conspicuous fringe of golden setae.

Head with moderately dense punctures, becoming crowded in front. Mandibles coarsely sculptured about base, apical half shining and lightly curved. Antennae moderately stout, conspicuously passing hind coxae, eleventh joint about once and one half the length of tenth, its tip conical and subappendiculate. Apical joint of each palpus rather stout, dilated from base to about middle, and then parallel-sided to apex, with a shallow depression near outer apex. *Prothorax* lightly transverse, sides rather strongly rounded and widest near apex; irregularly depressed, wrinkled, and finely shagreened, punctures sparser and somewhat smaller than on head. *Elytra* much wider than prothorax, widest across shoulders; striation well-defined but somewhat irregular on sutural two-thirds, ill-defined elsewhere; interstices irregularly transversely impressed, and with a few punctures, becoming vermiculate towards sides. Basal segment of *abdomen* widely and shallowly depressed along middle, apical segment lightly foveate. *Legs* comparatively short; hind femora strongly angulate but scarcely dentate; hind tibiae conspicuously dilated to apex. Length (♂, ♀), 20-25 mm.

♀. Differs in being stouter, eyes less prominent, antennae not extending to hind coxae, basal segment of abdomen evenly convex and without special clothing, apical segment non-foveate, and angulation of hind femora less conspicuous.

Hab.—North-western Australia (Blackburn's collection); Western Australia (National Museum from C. French). Type ♂, I. 4153, in South Australian Museum; type ♀, in National Museum.

The specimen from the Blackburn collection is certainly a male, but the apical joint of each of its palpi is much less

dilated to the apex than on the males of the other known species, and scarcely differs from that of its own female; the mandibles are sexually much alike, and without any striking peculiarity. The tip of each antenna is somewhat reddish. The elytra of *mandibularis* were described as "*inaequaliter punctulato-rugosis et fortiter transversim rugatis*," but they are much less conspicuously rugose than those of the present species, and have more conspicuous punctures; there are also many other differences of the palpi, abdomen, etc.

MEGAMERUS FEMORALIS, n. sp.

♂. Black and highly polished. Under-surface moderately clothed with stramineous pubescence, the abdomen more sparsely than the sterna; with a few long hairs near eyes, upper-lip with a very conspicuous fringe of golden setae.

Head with rather dense punctures, becoming crowded in front, with a large irregular depression in front of antennae. Mandibles coarsely punctured and concave at base; apical half suddenly compressed so as to be deeper than wide, highly polished and impunctate. Antennae long and thin, passing hind coxae, tip subconical. Apical joint of each palpus strongly dilated from base to apex, the apex slightly longer than the inner side, but shorter than the outer. *Prothorax* lightly transverse, sides strongly rounded and widest near apex; irregularly depressed, wrinkled, and finely shagreened, the wrinkles deep and very conspicuous on the lower sides of the base; punctures smaller and sparser than on head. *Elytra* much wider than prothorax, widest across shoulders, with somewhat irregular rows of distinct punctures, which towards apex become transversely confluent, interstices also with punctures. Basal segment of *abdomen* lightly impressed along middle; the apical segment with a rather large fovea. Front *femora* on one side towards apex somewhat scooped out, the excavated portion bounded behind by a vertical ridge, hind pair strongly angulate; hind tibiae strongly dilated to and sinuous at apex. Length (♂, ♀), 24-26 mm.

♀. Differs in having less prominent eyes, much shorter antennae, palpi with apical joint considerably narrower (but still dilated from base to apex), abdomen strongly and evenly convex along middle, legs somewhat shorter, with the excavation and ridge of the front femora less distinct.

Hab.—South Australia: Ooldea, Murray River, Western Australia: Cue. Type I. 8209.

On the male the apical joint of each palpus is much as on *mandibularis*, but the subapical joint is considerably stouter; the mandibles are similar except that the apical half

of each is even more conspicuously scooped out, they scarcely differ sexually; but the apical joint of each palpus on the female is decidedly longer than wide. The species, however, may be readily distinguished from *mandibularis* by the front femora.

MONOLEPTA INTERRUPTA, n. sp.

Head behind eyes, elytra, metasternum (except episterna which are black), and abdomen metallic bluish-green; head in front of eyes (the tip of muzzle infuscated), prothorax and legs (parts of the tarsi lightly infuscated) flavous; antennae (parts of four basal joints obscurely flavous), parts of palpi and scutellum blackish. Under-surface and legs sparsely pubescent.

Head with small punctures, with some irregular depressions between eyes, and between antennae with three short elevations, conjoined to form a thick Y. Antennae moderately long and rather stout, second and third joints small and subequal, their combined length scarcely equal to that of fourth. *Prothorax* about twice as wide as long, each side of base with a slight angular projection; with a rather deep transverse impression, suddenly interrupted in middle; punctures rather more distinct than on head. *Elytra* finely shagreened; and with dense and rather small but sharply defined punctures; epipleurae each traceable beyond the middle to near apex as a narrow rim. Length, $3\frac{1}{2}$ mm.

Hab.—South Australia: Parachilna. Type (unique), I. 8207.

In Blackburn's table (*ante*, 1896, pp. 100-102) would be associated with *pictifrons* and *occidentalis*; from the former it is distinguished by its larger size and metallic elytra, and from the description of the latter by its smaller size, base of head not of the same colour as the elytra, and by the four basal joints of the antennae being only partly pale.

MONOLEPTA DIVISA, Blackb., Parachilna.

M. TARSALIS, Blackb., Cooper Creek, Parachilna.

TOMYRIS VIRIDULA, Er., Ooldea.

COCCINELLIDAE.

COCCINELLA TRANSVERSALIS, Fab., Cooper Creek, Ooldea, Parachilna.

RHIZOBIUS LINDI, Blackb., Ooldea.

R. NOCTUABUNDUS, Lea, Frome Well, Lakes Crossing, Parachilna.

R. PULCHER, Blackb., Ooldea.

SCYMNUS FLAVIFRONS, Blackb., Ooldea, Parachilna.

CYREMA NIGELLUM, Blackb., Ooldea.

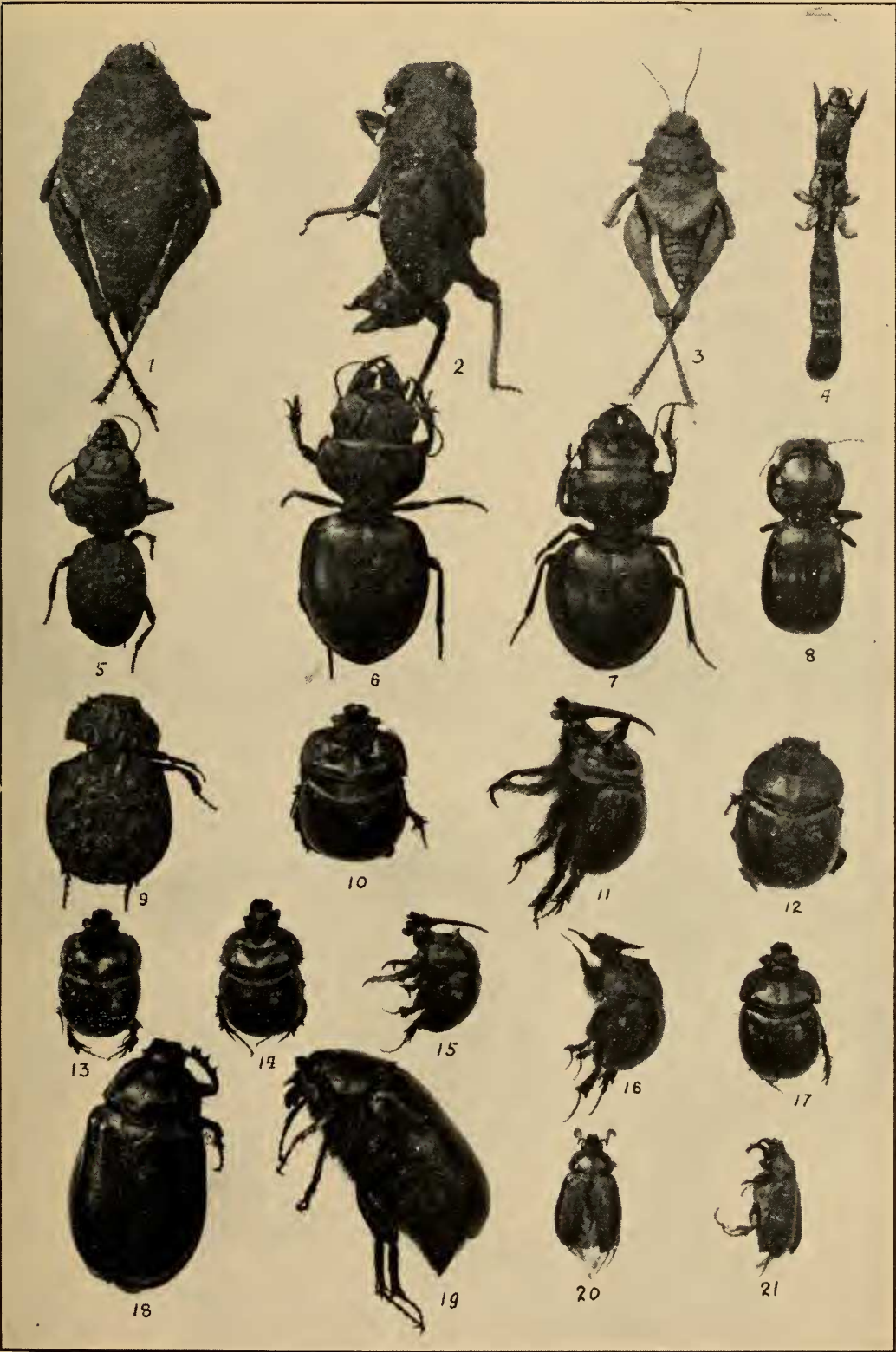


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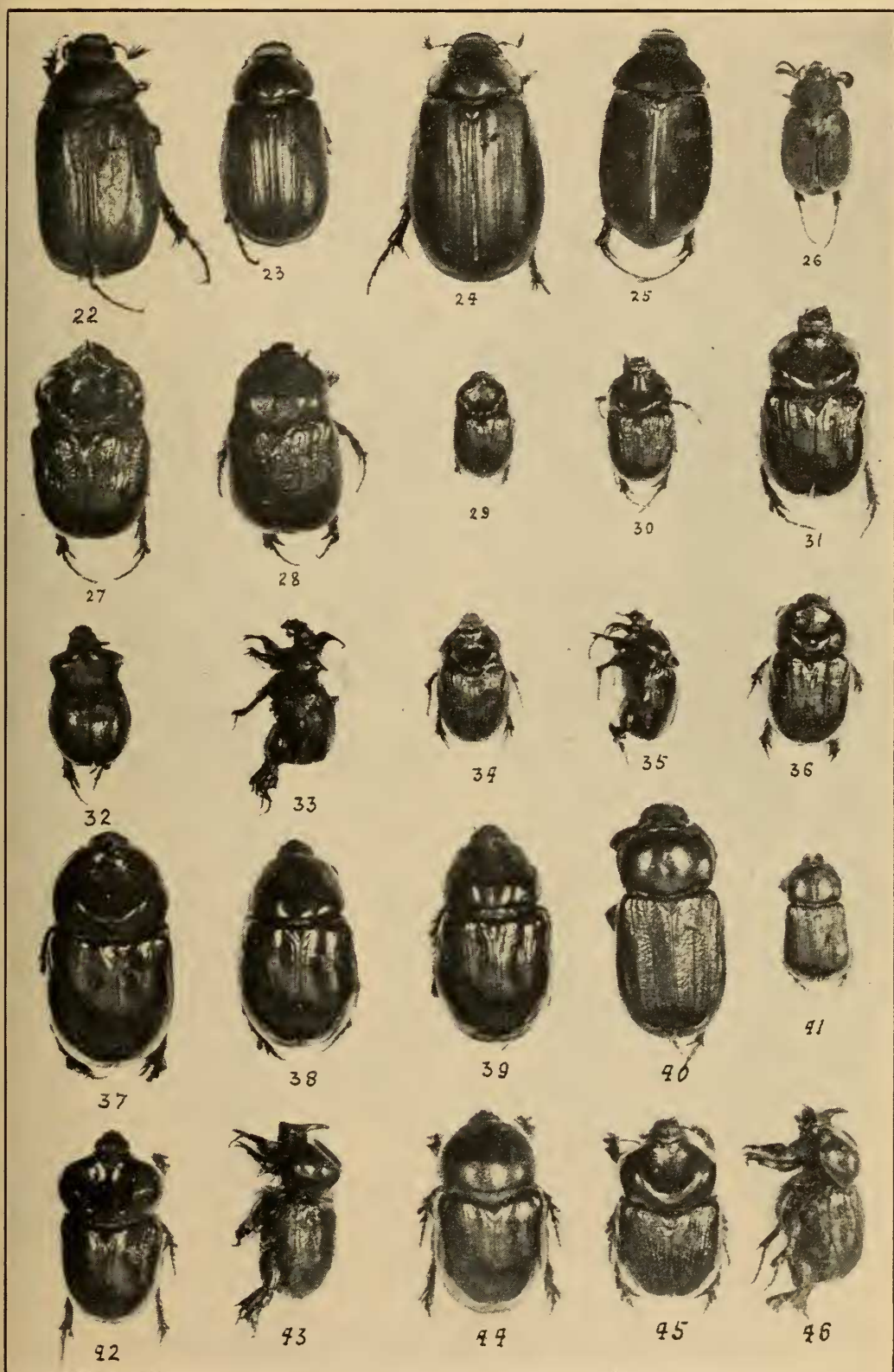


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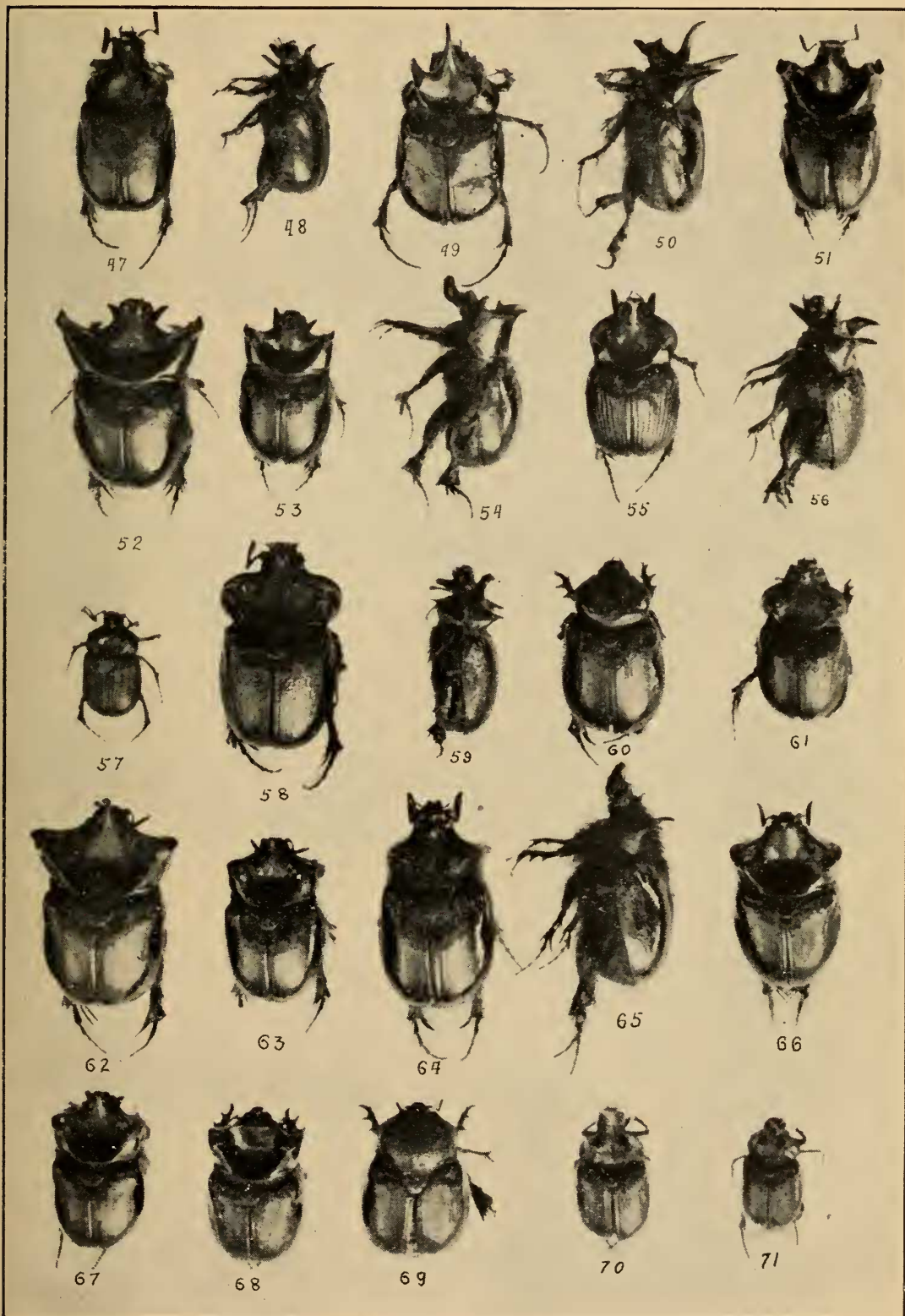


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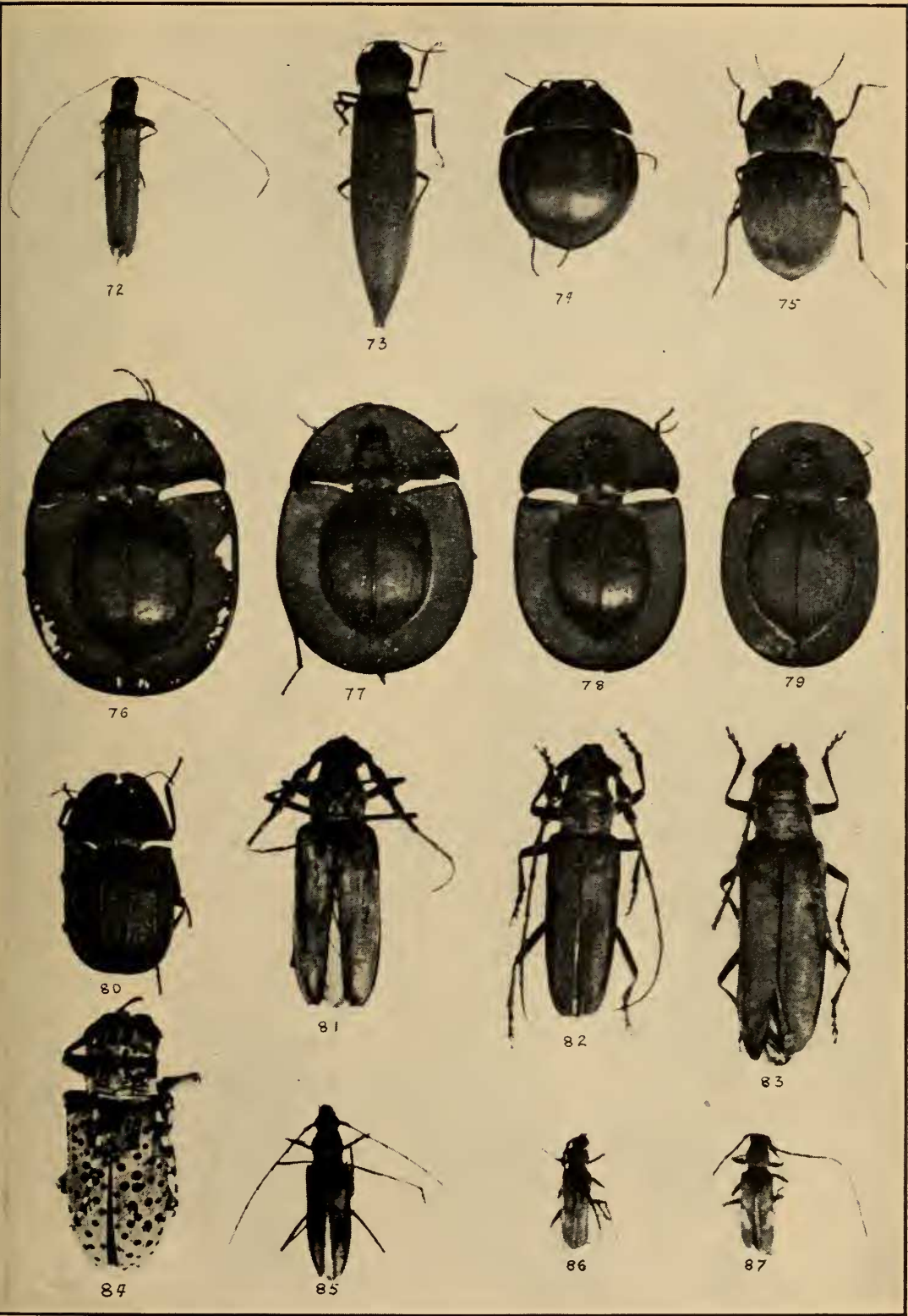


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